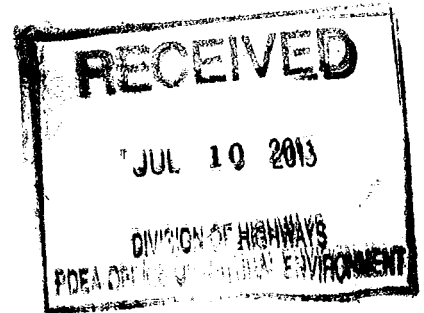




REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343



July 9, 2013

Regulatory Division

Action ID No. SAW-1994-03552

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
N.C. Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Thorpe:

Reference the Department of the Army (DA) permit issued on February 28, 2011, for the discharge of fill material into waters and wetlands adjacent to various Creeks, and their tributaries in order to construct Section A of TIP# R -2633 (Wilmington Bypass), Brunswick County, North Carolina. Reference is also made to your permit modification dated April 8, 2013 with revisions dated May 2, 6, 14, and 24, 2013. With the referenced revisions and updated information received for Section B, which totals 8.02 miles starting along Highway 74/76 in Leland, Brunswick County and terminating at US 421 north of Wilmington in New Hanover County, the existing permit is currently being modified to include the Section B.

I have determined that the proposed project modifications described above are not contrary to the public interest and consistent with the 404 (B)(1) and therefore, the DA permit is hereby modified. The following conditions specific to Section B have been added:

All original conditions in the February 28, 2011 permit remain valid and are enforceable with Section B authorization. The Special Conditions for the permit modification are the following:

1. This permit modification only authorizes work on Section B of TIP R-2633. The permittee has minimized impacts to waters and wetlands to the maximum extent practicable, any modifications to the plans, and a compensatory mitigation plan, have been approved by the US Army Corps of Engineers (COE). Approved permit plans for Section B are attached.
2. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements

of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit modification authorization.

Section A impact breakdown is:

- Riparian 7.16 acres (2:1 ratio from offsite) = 14.32 acres
- Non Riparian 16.38 acres (2:1 ratio from offsite) = 32.76 acres
- Stream 504 linear feet (2:1 ratio from offsite) = 1008 linear feet

Section B impact breakdown is:

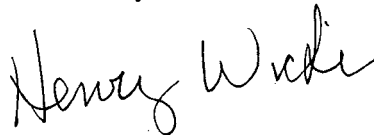
- Riparian 0.12 acre (2:1 ratio from offsite) = 0.24 acre
- Non Riparian 39.65 acres (2:1 ratio from offsite) = 79.30 acres
- Stream 5 linear feet (2:1 ratio from offsite) = 10 linear feet

Total: Riparian 14.56 acres, Non riparian 112.06, and stream 1,018 linear feet

The attached mitigation transfer form will cover the combined impacts of Section A and B.

This modification approval will be utilized for future compliance of the project. If you have questions, please contact Brad Shaver of the Wilmington Regulatory Field Office, at telephone (910) 251-4611.

Sincerely,



Steven A. Baker
Colonel, U. S. Army
District Commander

Enclosures

Copies Furnished (electronic w/o attachments):

Mr. Mason Herndon, NCDWQ
Mr. Stoney Mathis, NCDOT
Mr. Chris Rivenbark, NCDOT
Mr. Rachelle Beauregard, NCDOT
Mr. Chris Militscher, USEPA
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Ms. Beth Harmon, NCEEP
Mr. Todd Tugwell, USACE

U.S. ARMY CORPS OF ENGINEERS

Wilmington District

Compensatory Mitigation Responsibility Transfer Form

Permittee: North Carolina Department of Transportation
Project Name: R-2633 A and B Wilmington Bypass

Action ID: SAW-1994-03552
County: Brunswick

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Ecosystem Enhancement Program (NCEEP), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/In-Lieu Fee Program Manager. The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation*

8-digit HUC and Basin: 03030005, Cape Fear River Basin

| Stream Impacts (linear feet) | | | Wetland Impacts (acres) | | | |
|------------------------------|------|------|-------------------------|-----------------------|--------------|---------|
| Warm | Cool | Cold | Riparian Riverine | Riparian Non-riverine | Non-Riparian | Coastal |
| 509 | | | | 7.28 | 56.03 | |

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements:

8-digit HUC and Basin: 03030005, Cape Fear River Basin

| Stream Mitigation (credits) | | | Wetland Mitigation (credits) | | | |
|-----------------------------|------|------|------------------------------|-----------------------|--------------|---------|
| Warm | Cool | Cold | Riparian Riverine | Riparian Non-riverine | Non-Riparian | Coastal |
| 1,018 | | | | 14.56 | 112.06 | |

Mitigation Site Debited: NCEEP

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCEEP, list NCEEP. If the NCEEP acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCEEP), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: _____

Name of Sponsor's Authorized Representative: _____

Signature of Sponsor's Authorized Representative

Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This transfer form combines the impacts previously authorized in the section A authorization and combines them with the new section B authorization impact numbers and required mitigation.

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

USACE Project Manager: Brad Shaver
USACE Field Office: Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403

Email:



USACE Project Manager Signature

July 8, 2013

Date of Signature

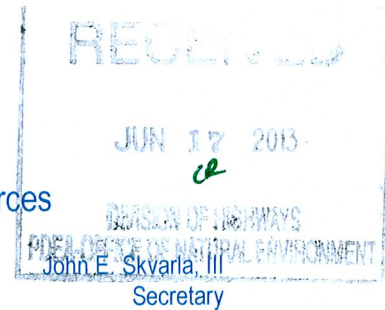
Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Charles Wakild, P. E.
Director

Pat McCrory
Governor



May 31, 2013

Dr. Greg Thorpe, PhD., Manager
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS for Proposed improvements to the Wilmington Bypass from US 17 in Brunswick County, north of the NC 87 intersection, to US 421 in New Hanover County. Federal Aid Project Nos. NHF-0017(96) and STM-0017(97), State Project Nos. 34491.1.3.GV2 and 34497.3.ST1, Brunswick and New Hanover Counties, TIP R-2633AA/AB and R-2633B.

NCDWQ Project No. 20100867 v. 4

Dear Dr. Thorpe:

Attached hereto is a modification of Certification No. 3842 issued to The North Carolina Department of Transportation (NCDOT) dated January 7, 2011 and reissuance dated January 13, 2011.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Charles Wakild
Director

Attachments

cc: Brad Shaver, US Army Corps of Engineers, Wilmington Field Office (electronic copy only)
Stoney Mathis, Division 3 Environmental Officer
Chris Militscher, Environmental Protection Agency (electronic copy only)
Gary Jordan, US Fish and Wildlife Service (electronic copy only)
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)
Rachelle Beauregard, NCDOT, Natural Environment Section (electronic copy only)
Jason Elliot, NCDOT, Natural Environment Section (electronic copy only)
Steve Sollod, NC Coastal Management (electronic copy only)
Jim Stanfill, Ecosystem Enhancement Program
Sonia Carrillo, NCDWQ Central Office
File Copy

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

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**Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act
with ADDITIONAL CONDITIONS**

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (NCDWQ) Regulations in 15 NCAC 2H .0500. This certification modification authorizes the NCDOT to impact 103.65 acres of jurisdictional wetlands, 0.22 acres of isolated wetlands, 0.23 acres of waters and 978 linear feet of jurisdictional streams in Brunswick and New Hanover Counties. The project shall be constructed pursuant to the modification dated received April 3, 2013 and revisions received on May 8, 2013, May 14, 2013 and May 24, 2013. The modified authorized impacts are as described below:

Stream Impacts in the Cape Fear River Basin

| Site | Station | Permanent Fill in Intermittent Stream (linear ft) | Temporary Fill in Intermittent Stream (linear ft) | Permanent Fill in Perennial Stream (linear ft) | Temporary Fill in Perennial Stream (linear ft) | Total Stream Impact (linear ft) | Stream Impacts Requiring Mitigation (linear ft) |
|--|----------------|---|---|--|--|---------------------------------|---|
| SECTION AA & AB⁽¹⁾ | | | | | | | |
| Total | | 16 | 115 | 683 | 30 | 844 | 627 |
| SECTION B | | | | | | | |
| * 19 | -Y7- 52+90 | 0 | 0 | 5 | 39 | 44 | 0 |
| * 19 | -Y7 DET- 16+45 | 0 | 0 | 0 | 90 | 90 | 0 |
| Total | | 0 | 0 | 5 | 129 | 134 | 0 |
| Project Total | | 16 | 115 | 688 | 159 | 978 | 627 |

⁽¹⁾Impacts authorized in the original 401 certification dated January 7, 2011, reissuance on January 11, 2011 and modifications dated May 9, 2011 and April 5, 2012.

Total Stream Impact for Project: 978 linear feet (134 linear feet for Section B)

Wetland Impacts in the Cape Fear River Basin

| Site | Station | Wetland * Type ⁽¹⁾ | Fill (ac) | Fill (temporary) (ac) | Excavation (ac) | Mechanized Clearing (ac) | Hand Clearing (ac) | Total Wetland Impact (ac) | Impacts Requiring Mitigation (ac) |
|--|-------------------------|-------------------------------|--------------|-----------------------|---------------------|--------------------------|--------------------|---------------------------|-----------------------------------|
| SECTION AA & AB⁽²⁾ | | | | | | | | | |
| Total | | | 22.56 | 0.53 | 0.34 | 1.57 | 1.70 | 26.70 | 24.47 |
| SECTION B | | | | | | | | | |
| * 3 | -LREV- 339+73 to 358+92 | NR | 7.45 | 0 | 0.03 | 0 | 0.58 | 8.06 | 7.48 |
| * 5 | -LREV-372+74 to-L-85+08 | NR | 1.04 | 0 | 0 | 0 | 0.12 | 1.16 | 1.04 |
| * 6 | -L- 109+28 to 134+54 | NR | 9.72 | 0 | 0 | 0 | 1.13 | 10.85 | 9.72 |
| *6A | -L- 138+11 to 140+70 | NR | 0.68 | 0 | 0 | 0 | 0 | 0.68 | 0.68 |
| *6B | -L-141+20 to 144+29 | NR | 0.41 | 0 | 0 | 0 | 0.02 | 0.43 | 0.41 |
| * 7 | -L- 146+78 to 165+66 | NR | 10.55 | 0 | 0 | 0 | 0.98 | 11.53 | 10.55 |
| * 9 | -L- 186+97 to 191+88 | NR | 1.04 | 0 | 0 | 0 | 0.09 | 1.13 | 1.04 |
| *11 | -L- 194+75 to 216+13 | NR | 8.72 | 0 | 0 | 0 | 0.93 | 9.65 | 8.72 |
| *14 | -L- 264+32 to 266+94 | R | 0 | 0 | 0 | 0.03 | 0.30 | 0.33 | 0.03 |
| 15 | -L- 319+46 to 387+92 | R | 0.05 | 0 | 0.93 ⁽³⁾ | 0 | 29.40 | 30.38 | 0.05 |
| *19 | -Y7 DET- 16+45 | R | 0 | 0.06 | 0 | 0 | 0.03 | 0.09 | 0 |
| 20 | -Y8- 47+74 to 49+95 | R | <0.01 | 0 | 0 | 0.04 | 0.31 | 0.35 | 0.04 |
| | EC measures in HC areas | | 0 | 0.75 | 0 | 0 | 0 | 0.75 | 0 |
| SECTION B UTILITIES | | | | | | | | | |
| 1 | -Y8- 48+60 | R | 0 | 0 | 0 | 0 | 0.15 | 0.15 | 0 |
| 1 | -Y8- 48+58 | R | <0.01 | 0 | 0 | 0 | 0 | <0.01 | 0 |
| * 2 | -L- 138+96 to 141+92 | NR | 0 | 0 | 0 | 0 | 0.83 | 0.83 | 0 |
| * 2 | -L- 140+36 to 140+74 | NR | 0 | 0 | 0.02 ⁽³⁾ | 0 | 0 | 0.02 ⁽³⁾ | 0 |
| * 2 | -L- 140+62 to 147+63 | NR | 0 | 0 | 0 | 0 | 0.48 | 0.48 | 0 |
| * 2 | -L- 147+50 to 147+89 | NR | 0 | 0 | 0.02 ⁽³⁾ | 0 | 0 | 0.02 ⁽³⁾ | 0 |
| * 2 | -L- 147+75 to 148+80 | NR | 0 | 0 | 0 | 0 | 0.05 | 0.05 | 0 |

| | | | | | | | |
|----------------------|--------------|-------------|-------------|-------------|--------------|---------------|--------------|
| Total* | 39.67 | 0.81 | 1.00 | 0.07 | 35.40 | 76.95 | 39.77 |
| Project Total | 62.23 | 1.34 | 1.34 | 1.64 | 37.10 | 103.65 | 64.24 |

⁽¹⁾ Wetland Type: R = Riparian; NR=Non-Riparian. ⁽²⁾ Impacts authorized in the original 401 certification dated January 7, 2011, reissuance on January 11, 2011 and modifications dated May 9, 2011 and April 5, 2012. ⁽³⁾ Denotes temporary excavation and does not require mitigation. *totals may not match sum of individual impacts due to rounding.

Total Wetland Impact for Project: 103.65 (76.95 acres for Section B)

Isolated Wetland Impacts in the Cape Fear River Basin

| Site | Station | Fill (ac) | Fill (temporary) (ac) | Excavation (ac) | Mechanized Clearing (ac) | Hand Clearing (ac) | Total Wetland Impact (ac) | Impacts Requiring Mitigation (ac) |
|--|---------------------|-------------|-----------------------|-----------------|--------------------------|--------------------|---------------------------|-----------------------------------|
| SECTION AA & AB⁽¹⁾ | | | | | | | | |
| Total | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SECTION B | | | | | | | | |
| 16 | -L-399+43 to 400+51 | 0.22 | 0 | 0 | 0 | 0 | 0.22 | 0.22 |
| Total | | 0.22 | 0 | 0 | 0 | 0 | 0.22 | 0.22 |
| Project Total | | 0.22 | 0 | 0 | 0 | 0 | 0.22 | 0.22 |

Total Isolated Wetland Impact for Project: 0.22 acres.

Open Water (Ponds/Tributary) Impacts in the Cape Fear River Basin

| Site | Station | Permanent Fill in Open Waters (ac) | Temporary Fill in Open Waters (ac) | Total Fill in Open Waters (ac) |
|------------------------------|----------------------|------------------------------------|------------------------------------|--------------------------------|
| R-2303A⁽¹⁾ | | | | |
| Total | | 0 | 0 | 0 |
| R-2303B | | | | |
| * 11 | -L- 194+75 to 216+13 | 0.07 | <0.01 | 0.07 |
| * 14 | -L- 264+32 to 266+94 | <0.01 | 0 | <0.01 |
| 15 | -L- 319+46 to 387+92 | 0.13 | 0.03 | 0.16 |
| Total | | 0.20 | 0.03 | 0.23 |
| Project Total | | 0.20 | 0.03 | 0.23 |

⁽¹⁾Impacts authorized in the original 401 certification dated January 7, 2011, reissuance on January 11, 2011 and modifications dated May 9, 2011 and April 5, 2012.

Total Open Water Impact for Project: 0.23 acres. (0.23 acres for Section B)

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your modified application dated received April 3, 2013 and revisions received on May 8, 2013. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 7, 2011(reissuance on January 11, 2011) and modifications dated May 9, 2011 and April 5, 2012 still apply except where superceded by this certification. Should your project change, you are required to notify NCDWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

Project Specific Conditions

1. This modification is applicable only to the additional proposed activities. All of the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 7, 2011 (reissuance on January 11, 2011) and modifications dated May 9, 2011 and April 5, 2012 still apply except where superseded by this certification
2. The B-Section of this project must be constructed in accordance with the Stormwater Management Plan submitted in the application and dated April 3, 2013.
3. Compensatory mitigation for permanent impacts to 627 linear feet of streams is required for R-2633AA & AB and R-2633B based on the final impact numbers provided for the B-section. Mitigation will be provided through a combination of both onsite and offsite mitigation. Mitigation will be credited as detailed below:
 - a. The NCDOT will provide compensatory mitigation for 180 linear feet of streams to be performed onsite at Bishops Branch Mitigation Site at a required 1:1 ratio. Compensatory mitigation for the above impacts to jurisdictional streams will be through a combination of restoration and preservation. The NCDOT will restore 66 linear feet of stream via removal of the existing culvert at a 1:1 credit ratio (66 linear feet). Additionally, 570 linear feet of preservation will occur at a 5:1 ratio for 114 linear feet of credit. The onsite restoration shall be constructed in accordance with the design submitted in your application dated October 18, 2010.
 - b. All onsite mitigation requirements listed in Conditions 17 b, 17c and 17d in the original Water Quality Certification dated January 7, 2011 (reissuance on January 11, 2011) still apply.
 - c. We understand that you have chosen to perform compensatory mitigation for the remaining permanent impacts to 447 linear feet of jurisdictional streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated May 30, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.

Based on the above information, stream mitigation can be summarized as follows:

| Mitigation Source | Mitigation Required (feet) | Debit Ratio | Debits Required (feet) |
|-----------------------------|----------------------------|-------------|------------------------|
| Sections AA & AB | | | |
| EEP | 447 | 1:1 | 447 |
| On Site Restoration | 66 | 1:1 | 66 |
| On Site Preservation | 114 | 5:1 | 570 |
| TOTAL: | 627 | | 1,083 |
| Section B | | | |
| TOTAL: | 0 | | 0 |
| Project Total | | | |
| TOTAL: | 627 | | 1,083 |

4. Mitigation for permanent impacts to 64.46 acres of wetland (404 and isolated) is required for R-2633AA & AB and R-2633B based on the final impact numbers provided for the B-section. Mitigation will be provided through a combination of both onsite and offsite mitigation. Mitigation will be credited as detailed below:
 - a. The NCDOT will provide compensatory mitigation impacts for 1.22 acres (0.63 acres restoration and 0.59 acres preservation) on site at the Bishop Branch Mitigation Site. The permittee shall comply with the on-site wetland mitigation plan submitted with the application dated October 18, 2010.
 - b. All onsite mitigation requirements listed in Conditions 18 b and 18c in the original Water Quality Certification dated January 7, 2011 (reissuance on January 11, 2011) still apply.
 - c. We understand that you have chosen to perform compensatory mitigation for the remaining 63.24 acres of impact (6.99 acres riparian and 56.25 acres non-riparian) wetlands through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the

mitigation for the project. EEP has indicated in a letter dated May 30, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.

Based on the above information, wetland mitigation can be summarized as follows:

| Mitigation Source | Wetland Type | Mitigation Credits Required | Debit Ratio | Credit or Debits (acres) Required |
|-----------------------------|--------------|-----------------------------|-------------|-----------------------------------|
| Sections AA & AB | | | | |
| EEP | Riparian | 6.87 | 2:1 | 13.74 (credits) |
| EEP | Non Riparian | 16.38 | 2:1 | 32.76 (credits) |
| On Site Restoration | Riparian | 0.63 | 1:1 | 0.63 (acres) |
| On Site Preservation | Riparian | 0.59 | 5:1 | 2.95 (acres) |
| Section B | | | | |
| EEP | Riparian | 0.12 | 2:1 | 0.24 |
| EEP | Non Riparian | 39.87 | 2:1 | 79.74 |

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. Lacy Presnell, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

This the 31st day of May 2013

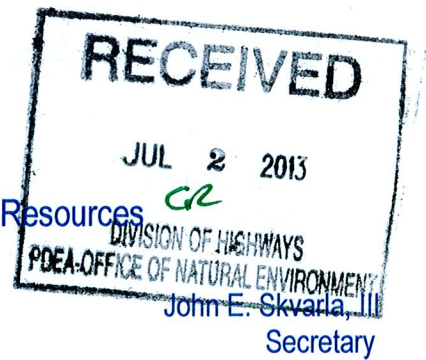
DIVISION OF WATER QUALITY



Charles Wakild
Director



North Carolina Department of Environment and Natural Resources
Division of Coastal Management



Pat McCrory
Governor

Braxton C. Davis
Director

Secretary

June 28, 2013

Gregory J. Thorpe, Ph.D.
Environmental Manager Director
Project Development and Environmental Analysis Branch
NC Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

The enclosed permit constitutes authorization under the Coastal Area Management Act, and where applicable, the State Dredge and Fill Law, for you to proceed with your project proposal. The original (buff-colored form) is retained by you and it must be available on site when the project is inspected for compliance. Please sign both the original and the copy and return the copy to this office in the enclosed envelope. Signing the permit and proceeding means you have waived your right of appeal described below.

If you object to the permit or any of the conditions, you may request a hearing pursuant to NCGS 113A-121.1 or 113-229. Your petition for a hearing must be filed in accordance with NCGS Chapter 150B with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27611-6714, (919) 733-2698 within twenty (20) days of this decision on your permit. You should also be aware that if another qualified party submits a valid objection to the issuance of this permit within twenty (20) days, the matter must be resolved prior to work initiation. The Coastal Resources Commission makes the final decision on any appeal.

The project plan is subject to those conditions appearing on the permit form. Otherwise, all work must be carried out in accordance with your application. Modifications, time extensions, and future maintenance require additional approval. Please read your permit carefully prior to starting work and review all project plans, as approved. If you are having the work done by a contractor, it would be to your benefit to be sure that he fully understands all permit requirements.

From time to time, Department personnel will visit the project site. To facilitate this review, we request that you complete and mail the enclosed Notice Card just prior to work initiation. However, if questions arise concerning permit conditions, environmental safeguards, or problem areas, you may contact Department personnel at any time for assistance. By working in accordance with the permit, you will be helping to protect our vitally important coastal resources.

Sincerely,

Douglas V. Huggett
Major Permits and Consistency Manager

Enclosure

Permit Class
NEW

Permit Number
76-13

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

Permit

for

Major Development in an Area of Environmental Concern
pursuant to NCGS 113A-118

Excavation and/or filling pursuant to NCGS 113-229

Issued to N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1548

Authorizing development in Brunswick and New Hanover County at a new crossing of the Cape Fear River and Toomers Creek (US 17 Wilmington Bypass) as requested in the permittee's application dated 4/3/13, including the attached drawings as referenced in Condition No. 1 of this permit.

This permit, issued on 6/28/13, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

US 17 Bypass of Wilmington (TIP No. R-2633B)

- 1) Unless specifically altered herein, all work authorized by this permit shall be carried out in accordance with the following seventy seven (76) workplan drawings:

½ size drawings: Twenty six (26) drawings dated 11/30/12, five (5) drawings dated 12/3/12, two (2) drawings dated 2/8/13, three (3) drawings dated as received on 4/8/13, twenty four (24) drawings dated 5/2/13, three (3) drawings dated 5/6/13, two (2) drawings dated 5/14/13, and eleven (11) drawings dated 5/24/13.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

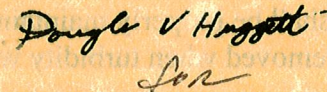
Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No Expiration Date, pursuant to GS 136-44.7B

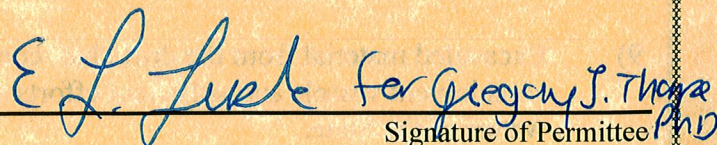
In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.



Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.



Signature of Permittee

ADDITIONAL CONDITIONS

- 2) In accordance with project commitments made within the CAMA permit application, and in order to protect anadromous fish during spawning periods and through embryonic, larval or juvenile life stages, no in-water work shall be conducted in the Cape Fear River and Toomers Creek from February 1st through June 15th of any year without prior approval of the NC Division of Coastal Management (DCM), in consultation with the NC Wildlife Resources Commission (WRC) and the NC Division of Marine Fisheries (DMF). For the purposes of this moratorium, in-water is defined as extending 35 meters (115 feet) from the main channel where the vegetation line meets open water and into adjacent wetlands. The in-water work moratorium prohibits pile installation, both vibratory and impact, and activities associated with the construction of any temporary work bridge.
- 3) Unless specifically altered herein, the permittee shall implement NCDOT's Stream Crossing Guidelines for Anadromous Fish Passage.
- 4) The West Indian Manatee, *Trichechus manatus*, which is listed as a federally endangered species, has been reported in North Carolina waters. Therefore, in accordance with commitments made by the permittee and in order to protect the West Indian Manatee all work should be done during the period from November 1 to May 31. If work must be done during the period from June through October the enclosed guidelines prepared by the U.S. Fish and Wildlife Service (USFWS), entitled "Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters (rev. 06/03)" shall be followed.
- 5) The authorized project is located within a Primary Nursery Area (PNA). Therefore, in accordance with T15A:07H.0208 of the rules of the Coastal Resources Commission, no new dredging or excavation within PNA shall be permitted. Dredging in any manner, including "kicking" with boat propellers is not authorized. This prohibition shall be applied and enforced throughout the construction and any following maintenance activities.
- 6) The permanent and temporary work bridge piles shall be installed with vibratory hammer, pile driver, or drilling. Should jetting of any bridge piles become necessary, additional authorization shall be required by DCM in consultation with the appropriate resource agencies.
- 7) Turbidity curtains shall be used to isolate all in-water work areas from the adjacent waterbody, including but not limited to pile driving/drilling or removal activities and excavation and filling activities. The turbidity curtains shall encircle the immediate work area but, shall not impede navigation. The turbidity curtains shall be properly maintained and retained in the water until construction is complete and shall only be removed when turbidity within the curtains reaches ambient levels.
- 8) Drill slurry, uncured concrete, and water that has been in contact with uncured concrete, shall not be allowed to contact waters of the State or water that will enter waters of the State. Drilling fluids shall be disposed of in an upland disposal site. Water returning to the river shall be of sufficient quality so as not to pose as threat to aquatic organisms or otherwise violate State water quality standards.
- 9) Excavated material from the drill-shaft construction shall be removed from the encasements directly into containment vessels and sufficient efforts shall be utilized to minimize spillage of spoil material into waters of the State.

ADDITIONAL CONDITIONS

- 10) Excavated material from the drill-shaft construction shall be removed from the encasements directly into containment vessels and sufficient efforts shall be utilized to minimize spillage of spoil material into waters of the State.
- 11) The permittee and/or his contractor shall exercise all available precautions in day-to-day operations to prevent waste from entering the adjacent waters and wetlands.
- 12) Any debris resulting from the construction of the new bridges shall not enter wetlands or waters of the State, even temporarily.
- 13) Any waste materials and debris associated with bridge construction or other activities shall be disposed of at an approved upland site or shall be recycled in an environmentally appropriate manner provided appropriate authorizations are obtained from any relevant state, federal, or local authorities.
- 14) The permittee and/or his contractor shall provide for proper storage and handling of all oils, chemicals, etc., necessary to carry out the project.
- 15) Construction staging areas shall be located only in upland areas, and not in wetlands or waters of the State.
- 16) Placement of riprap shall be limited to the areas as depicted on the attached workplan drawings. The riprap material shall be free from loose dirt or any pollutant. The riprap material shall consist of clean rock or masonry materials, such as but not limited to, granite, marl, or broken concrete.
- 17) The temporary work bridges shall be removed in their entirety within 90 days after they are no longer needed. However, if this timeframe occurs while the moratorium referenced in Condition No. 2 of this permit is in effect, then the temporary work bridge shall be removed in its entirety within 90 days of the moratorium end date.
- 18) The permittee shall minimize the need to cross wetlands in transporting equipment to the maximum extent practicable.
- 19) Construction mats shall be utilized to support equipment within wetland areas to minimize temporary wetland impacts. These mats shall be removed immediately following project completion.
- 20) There shall be no clearing or grubbing of wetlands outside of the areas indicated on the attached workplan drawings without prior approval from DCM.
- 21) In accordance with project commitments made within the permit application, bridge deck drains shall not be located over the open waters of the Cape Fear River or Toomers Creek and shall not cause erosion of adjacent wetlands.
- 22) During bridge construction, the permittee shall make every attempt to allow the same navigation that is currently possible in the Cape Fear River. If this is not possible, then adequate notice shall be provided to the public that navigation will be limited during construction. The notice shall include an estimate of the amount of time that the limited navigation will occur.

ADDITIONAL CONDITIONS

- 23) During bridge construction, the permittee shall make every attempt to allow the same navigation that is currently possible in the Cape Fear River. If this is not possible, then adequate notice shall be provided to the public that navigation will be limited during construction. The notice shall include an estimate of the amount of time that the limited navigation will occur.
- 24) In accordance with project commitments made within the Record of Decision, dated October 2007, protective fencing shall be installed to ensure that no inadvertent impacts occur to populations of Pickering's Dawnflower, a listed Federal Species of Concern and state-listed endangered species, outside the limits of the construction easement.

Excavation and Fill

- 25) No excavation or filling shall take place at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas indicated on the attached workplan drawings, without permit modification.
- 26) Material excavated may be used in fill areas associated with the project or shall be removed from the site and taken to an approved high ground location.
- 27) All excavated materials shall be confined above normal high water level and landward of regularly or irregularly flooded wetlands behind adequate dikes or other retaining structures to prevent spillover of solids into any wetlands or surrounding waters.
- 28) No excavated or fill material shall be placed at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas as indicated on the attached workplan drawings, without permit modification.
- 29) The temporary placement and double handling of any excavated or fill material within waters or vegetated wetlands is not authorized.
- 30) All fill material shall be clean and free of any pollutants except in trace quantities.

Barges

- 31) Barges shall be removed promptly when they are no longer needed.
- 32) Barges shall be utilized only in areas of sufficient depth such that the barges do not rest on the bottom during periods of low tide.
- 33) Caution shall be exercised with placement and removal of any barges to ensure that impacts to shallow water habitat are avoided and minimized to the maximum extent practicable.

ADDITIONAL CONDITIONS

Sedimentation and Erosion Control

- 34) This project shall conform to all requirements of the NC Sedimentation Pollution Control Act and NC DOT's Memorandum of Agreement with the Division of Energy, Mineral and Land Resources.
- 35) Unless specifically altered herein, the permittee shall follow "Best Management Practices for the Protection of Surface Waters (3/97)" and shall also implement sedimentation and erosion control measures sufficient to protect aquatic resources. At a minimum, appropriate sedimentation and erosion control devices, measures or structures shall be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses, and property (e.g. silt fence, diversion swales or berms, etc.).

Compensatory Mitigation

- 36) Due to the possibility that compaction, mechanized clearing and/or other site alterations might prevent any temporary Coastal Wetland impact area from re-attaining pre-project Coastal Wetland functions, the permittee shall monitor temporary Coastal Wetland impacts for three years after project completion. The permittee shall schedule a meeting with DCM to verify the extent and location of temporary impacts upon project completion. The permittee shall then provide an annual update on any Coastal Wetland areas temporarily impacted by this project. This annual update shall consist of photographs and written report on the progress of these temporarily impacted areas in re-attaining Coastal Wetland jurisdictional status. Three years after project completion, the permittee shall schedule an agency field meeting with DCM to determine if the Coastal Wetland areas temporarily impacted by this project have re-attained pre-project Coastal Wetland functions. If at the end of 3 years the Coastal Wetland areas temporarily impacted by this project have not re-attained pre-project Coastal Wetland functions, DCM shall determine whether compensatory Coastal Wetland mitigation shall be required.

NOTE: The Ecosystem Enhancement Program (EEP) agreed to provide mitigation for the entire project (R-2633AA&AB and R-2633B) impacts of 7.28 acres of riparian wetlands, 56.25 acres of non-riparian wetlands, and 509.0 linear feet of stream impacts, in accordance to the EEP Mitigation Acceptance Letter, dated 5/30/13.

Utilities Relocation

- 37) Any relocation of utility lines that has not been previously permitted by DCM or is not already depicted on the attached work plan drawings, or described within the attached permit application, shall require approval by DCM, either under the authority of this permit, or by the utility company obtaining separate authorization.

General

- 38) The permittee and/or contractor shall contact the DCM Transportation Field Representative at (252) 808-2808 extension No. 208 to schedule a pre-construction conference prior to project initiation.

ADDITIONAL CONDITIONS

39) DWQ authorized the proposed project (DWQ Project No. 20100867 v.4) on 5/31/13 under Certification No. 3842 as a modification to the original Water Quality Certification, dated 1/7/11 and reissued on 1/13/11. Any violation of the Certification approved by the DWQ shall be considered a violation of this CAMA permit.

NOTE: DWQ provided confirmation that the subject project is excluded from State Coastal Stormwater permitting requirements by way of the Stormwater Permit Exclusion letter, dated ~~12/17/10~~ **5/13/13** (Project No. SW8 101115).

NOTE: If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached permit drawings or described in the authorized permit application, permit modification or additional authorization from DCM shall be required.

NOTE: This permit does not eliminate the need to obtain any additional state, federal, or local permits, approvals, or authorizations that may be required, including, but not limited to, the US Army Corps of Engineers and/or the US Coast Guard.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

GUIDELINES FOR AVOIDING IMPACTS TO THE WEST INDIAN MANATEE Precautionary Measures for Construction Activities in North Carolina Waters

The West Indian manatee (*Trichechus manatus*), also known as the Florida manatee, is a Federally-listed endangered aquatic mammal protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972, as amended (16 U.S.C 1461 *et seq.*). The manatee is also listed as endangered under the North Carolina Endangered Species Act of 1987 (Article 25 of Chapter 113 of the General Statutes). The U.S. Fish and Wildlife Service (Service) is the lead Federal agency responsible for the protection and recovery of the West Indian manatee under the provisions of the Endangered Species Act.

Adult manatees average 10 feet long and weigh about 2,200 pounds, although some individuals have been recorded at lengths greater than 13 feet and weighing as much as 3,500 pounds. Manatees are commonly found in fresh, brackish, or marine water habitats, including shallow coastal bays, lagoons, estuaries, and inland rivers of varying salinity extremes. Manatees spend much of their time underwater or partly submerged, making them difficult to detect even in shallow water. While the manatee's principal stronghold in the United States is Florida, the species is considered a seasonal inhabitant of North Carolina with most occurrences reported from June through October.

To protect manatees in North Carolina, the Service's Raleigh Field Office has prepared precautionary measures for general construction activities in waters used by the species. Implementation of these measure will allow in-water projects which do not require blasting to proceed without adverse impacts to manatees. In addition, inclusion of these guidelines as conservation measures in a Biological Assessment or Biological Evaluation, or as part of the determination of impacts on the manatee in an environmental document prepared pursuant to the National Environmental Policy Act, will expedite the Service's review of the document for the fulfillment of requirements under Section 7 of the Endangered Species Act. These measures include:

1. The project manager and/or contractor will inform all personnel associated with the project that manatees may be present in the project area, and the need to avoid any harm to these endangered mammals. The project manager will ensure that all construction personnel know the general appearance of the species and their habit of moving about completely or partially submerged in shallow water. All construction personnel will be informed that they are responsible for observing water-related activities for the presence of manatees.
2. The project manager and/or the contractor will advise all construction personnel that

there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act and the Endangered Species Act.

3. If a manatee is seen within 100 yards of the active construction and/or dredging operation or vessel movement, all appropriate precautions will be implemented to ensure protection of the manatee. These precautions will include the immediate shutdown of moving equipment if a manatee comes within 50 feet of the operational area of the equipment. Activities will not resume until the manatee has departed the project area on its own volition (i.e., it may not be herded or harassed from the area).

4. Any collision with and/or injury to a manatee will be reported immediately. The report must be made to the U.S. Fish and Wildlife Service (ph. 919.856.4520 ext. 16), the National Marine Fisheries Service (ph. 252.728.8762), and the North Carolina Wildlife Resources Commission (ph. 252.448.1546).

5. A sign will be posted in all vessels associated with the project where it is clearly visible to the vessel operator. The sign should state:

CAUTION: The endangered manatee may occur in these waters during the warmer months, primarily from June through October. Idle speed is required if operating this vessel in shallow water during these months. All equipment must be shut down if a manatee comes within 50 feet of the vessel or operating equipment. A collision with and/or injury to the manatee must be reported immediately to the U.S. Fish and Wildlife Service (919-856-4520 ext. 16), the National Marine Fisheries Service (252.728.8762), and the North Carolina Wildlife Resources Commission (252.448.1546).

6. The contractor will maintain a log detailing sightings, collisions, and/or injuries to manatees during project activities. Upon completion of the action, the project manager will prepare a report which summarizes all information on manatees encountered and submit the report to the Service's Raleigh Field Office.

7. All vessels associated with the construction project will operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than a four foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

8. If siltation barriers must be placed in shallow water, these barriers will be: (a) made of material in which manatees cannot become entangled; (b) secured in a manner that they cannot break free and entangle manatees; and, (c) regularly monitored to ensure that manatees have not become entangled. Barriers will be placed in a manner to allow manatees entry to or exit from essential habitat.

Prepared by (rev. 06/2003):
U.S. Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
919/856-4520

Figure 1. The whole body of the West Indian manatee may be visible in clear water; but in the dark and muddy waters of coastal North Carolina, one normally sees only a small part of the head when the manatee raises its nose to breathe.

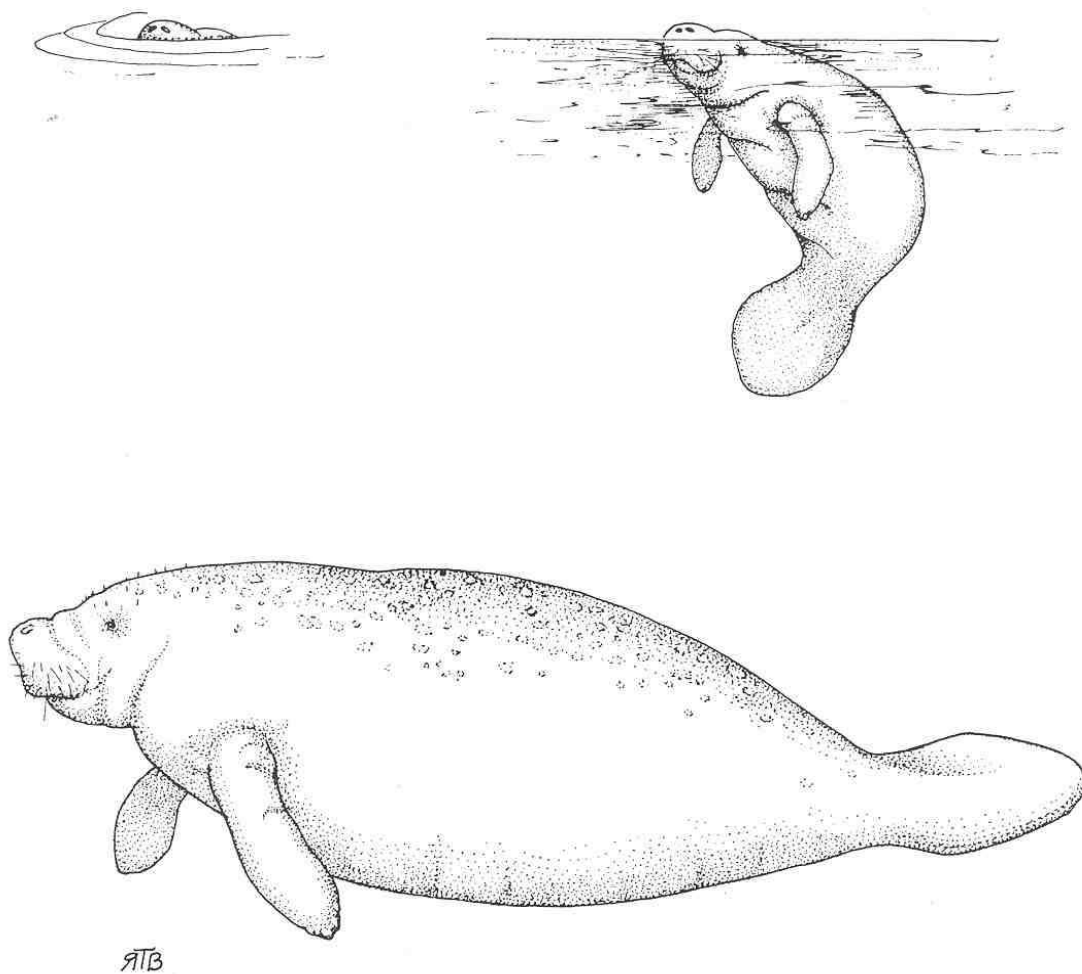
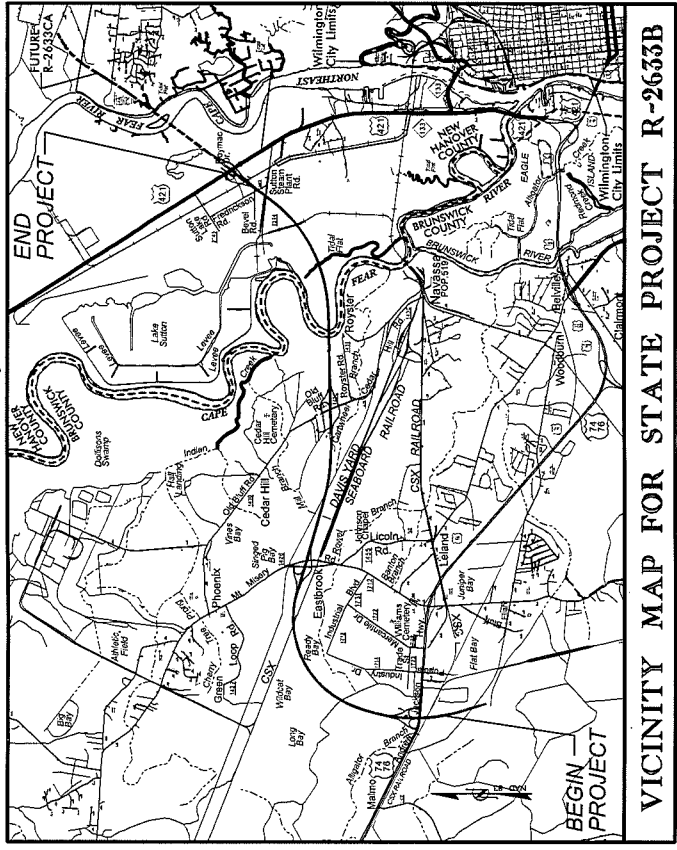


Illustration used with the permission of the North Carolina State Museum of Natural Sciences.
Source: Clark, M. K. 1987. Endangered, Threatened, and Rare Fauna of North Carolina: Part I. A re-evaluation of the mammals. Occasional Papers of the North Carolina Biological Survey 1987-3. North Carolina State Museum of Natural Sciences. Raleigh, NC. pp. 52.

CONTRACT: TIP PROJECT: R-2633B

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

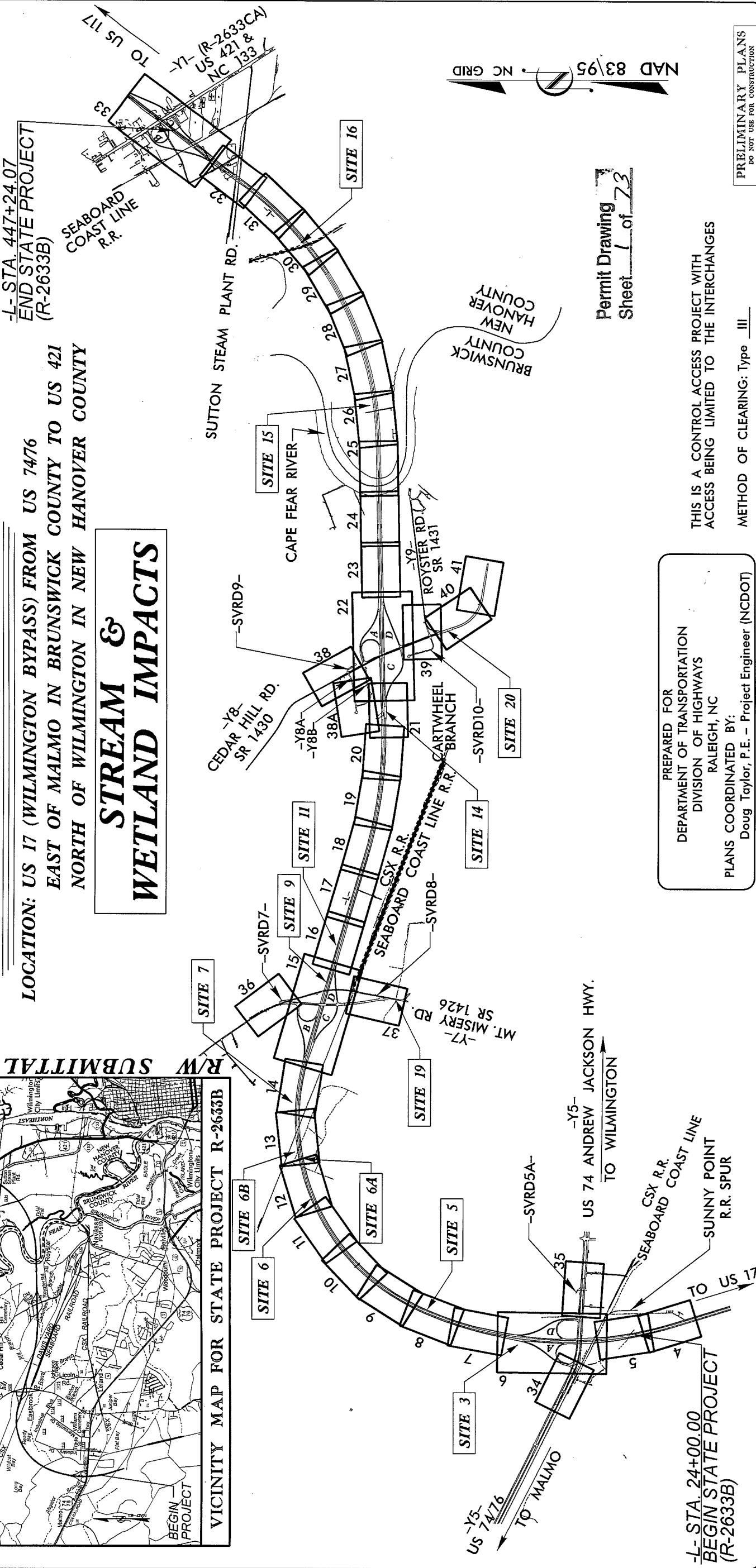


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS BRUNSWICK & HANOVER COUNTIES

**LOCATION: US 17 (WILMINGTON BYPASS) FROM US 7476
EAST OF MALMO IN BRUNSWICK COUNTY TO US 421
NORTH OF WILMINGTON IN NEW HANOVER COUNTY**

**STREAM &
WETLAND IMPACTS**

| | |
|-----------------------------|--------------|
| STATE PROJECT REFERENCE NO. | R-2633B |
| STATE PROJ. NO. | 34491.1.2 |
| STATE PROJ. NO. | 34491.2.3 |
| DESCRIPTION | STPNHF-17(1) |
| P.E. | P.E. |
| R/W | R/W |
| SHEET NO. | 1 |
| TOTAL SHEETS | |



NAD 83/95 NC GRID

Permit Drawing
Sheet 1 of 73

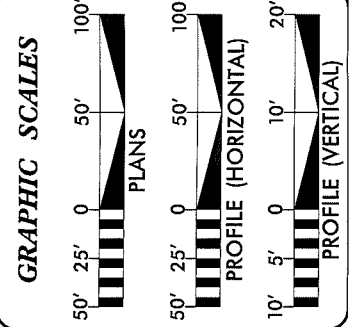
PREPARED FOR
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, NC

PLANS COORDINATED BY:
Doug Taylor, P.E. - Project Engineer (NCDOT)

THIS IS A CONTROL ACCESS PROJECT WITH
ACCESS BEING LIMITED TO THE INTERCHANGES

METHOD OF CLEARING: Type III

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



| DESIGN DATA | |
|----------------|------------|
| ADT 2009 = | 16,400 |
| ADT 2025 = | 24,900 |
| DHV = | 12 % |
| D = | 60 % |
| T = | 15 % * |
| V = | 70 MPH |
| * TTST 10% | DUAL 5% |
| FUNC. CLASS. = | INTERSTATE |

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2633B = 6.24 Miles
LENGTH STRUCTURES TIP PROJECT R-2633B = 1.78 Miles
TOTAL LENGTH STATE TIP PROJECT R-2633B = 8.02 Miles

THIS IS A FULL CONTROLLED-ACCESS PROJECT
WITH ACCESS BEING LIMITED TO POINTS
SHOWN ON THE PLANS.

RIGHT OF WAY DATE:
June 20, 2008

LETTING DATE:
July 19, 2011

2006 STANDARD SPECIFICATIONS

Prepared in the Office of:
LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

Brian K. Eason, P.E.
PROJECT ENGINEER

Jeffrey R. Hext
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

STATE HIGHWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



P.E.

P.E.

P.E.

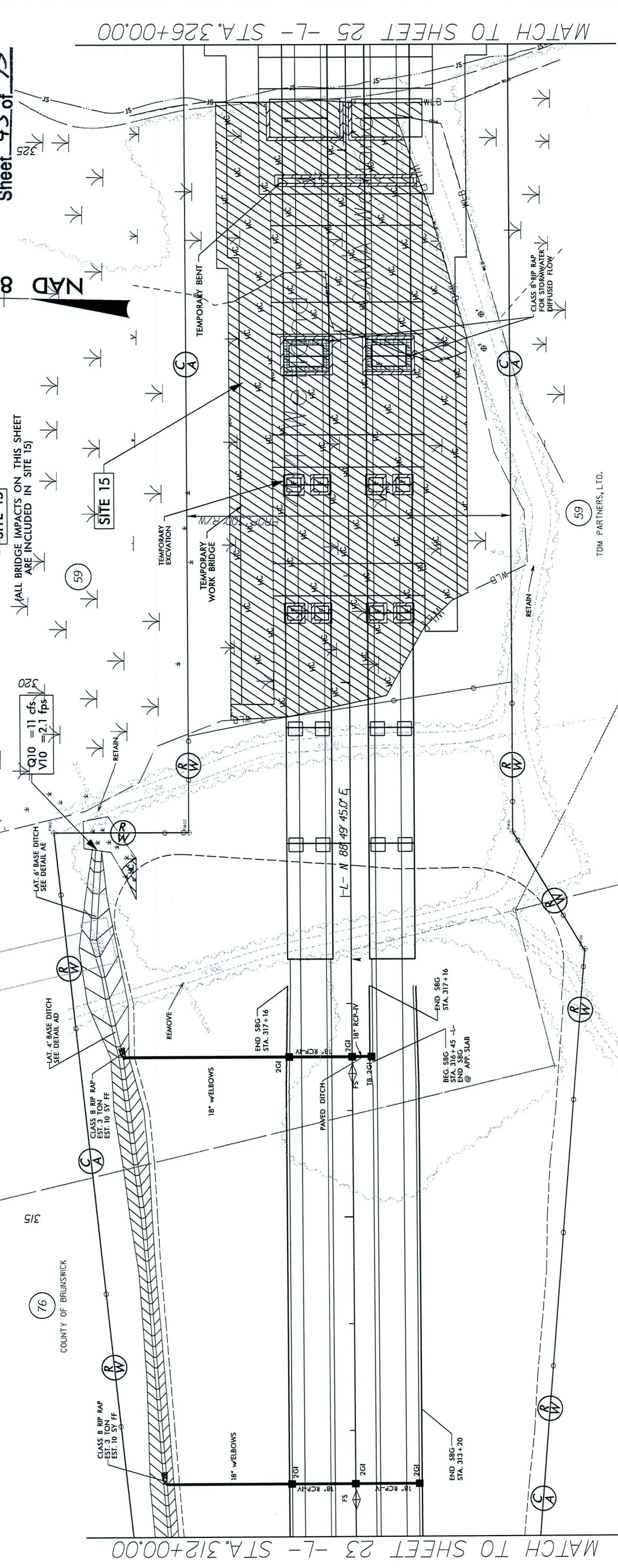
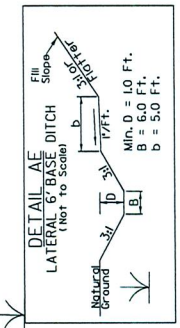
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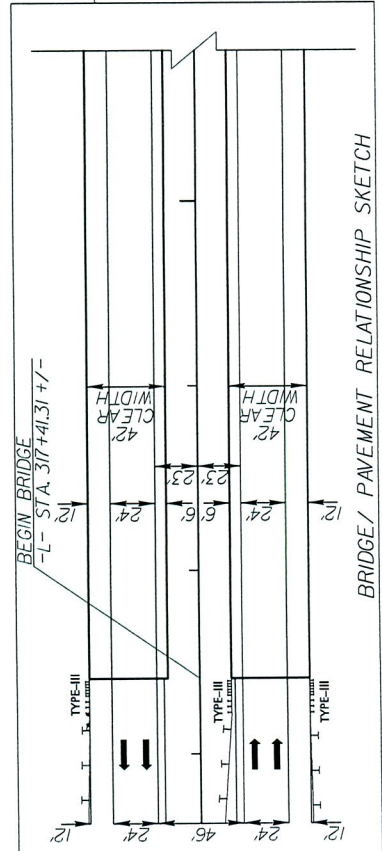
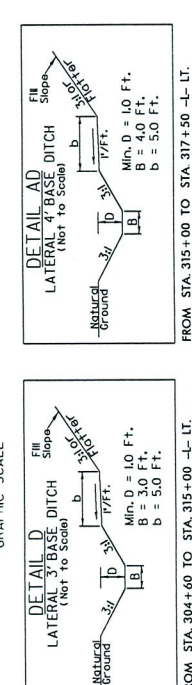
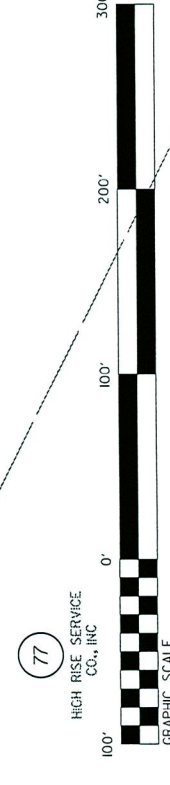
P.E.

P.E.

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION
 rev. 5/24/13
 Permit Drawing
 Sheet 43 of 73



- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY EXCAVATION IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND

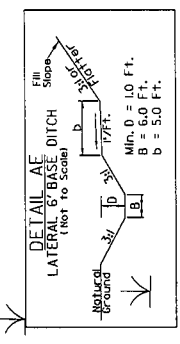


SEE SHEET 53 FOR -L- PROFILE

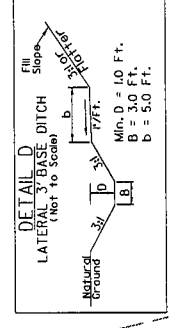
REVISIONS

Permit Drawing
 Sheet 44 of 73
 rev. 5/24/13

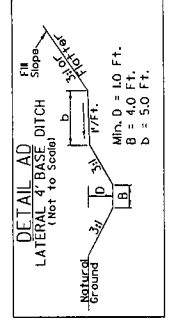
MATCH TO SHEET 25 - L - STA. 326+00.00



FROM STA. 317+50 TO STA. 318+40 - L - LT.

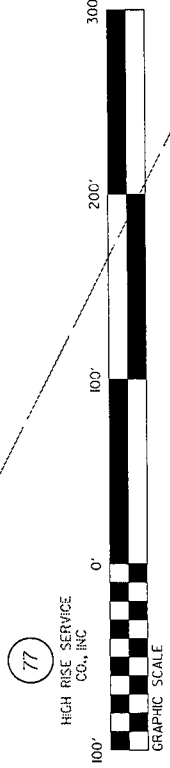


FROM STA. 304+60 TO STA. 315+00 - L - LT.

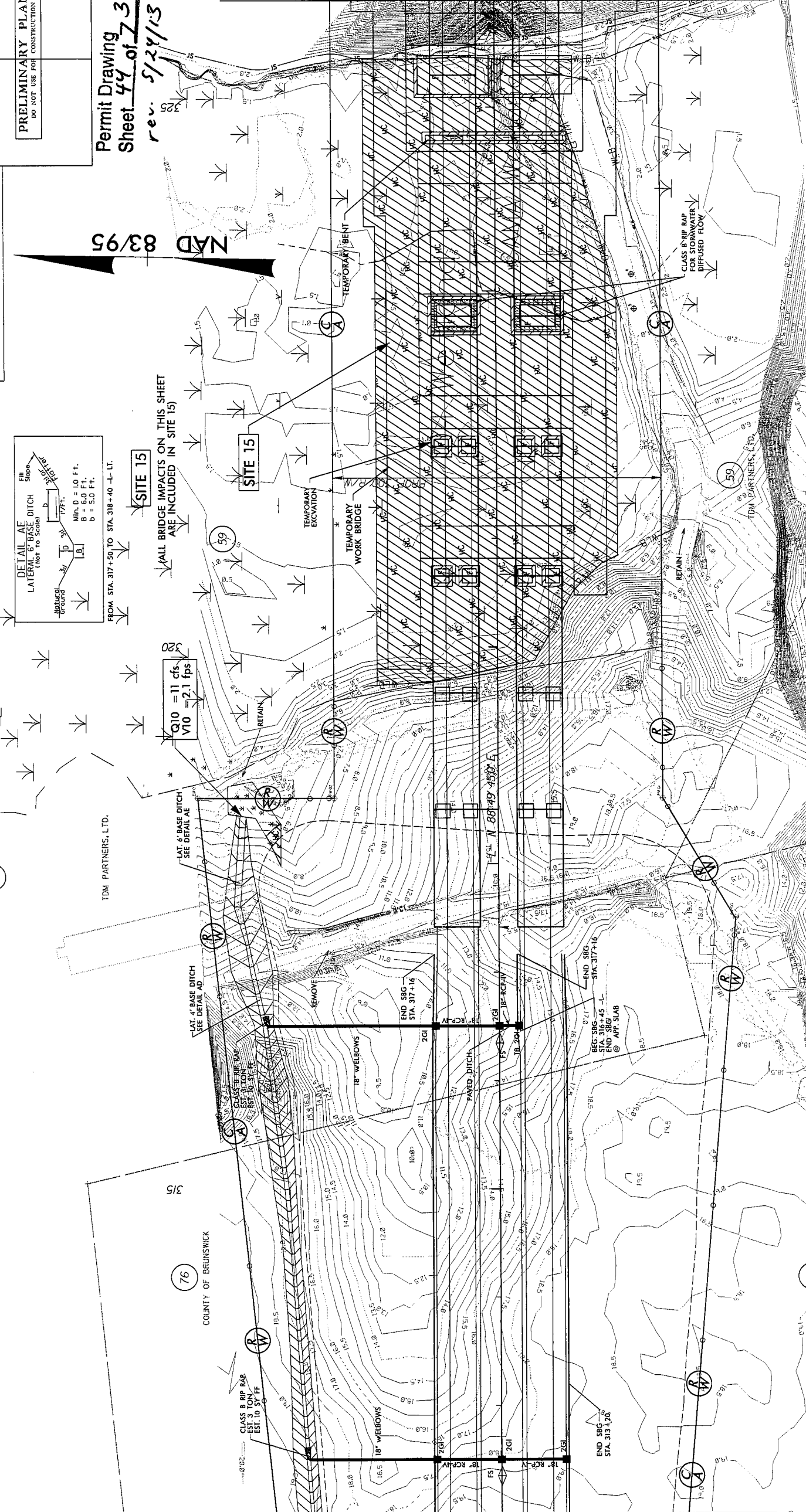


FROM STA. 315+00 TO STA. 317+50 - L - LT.

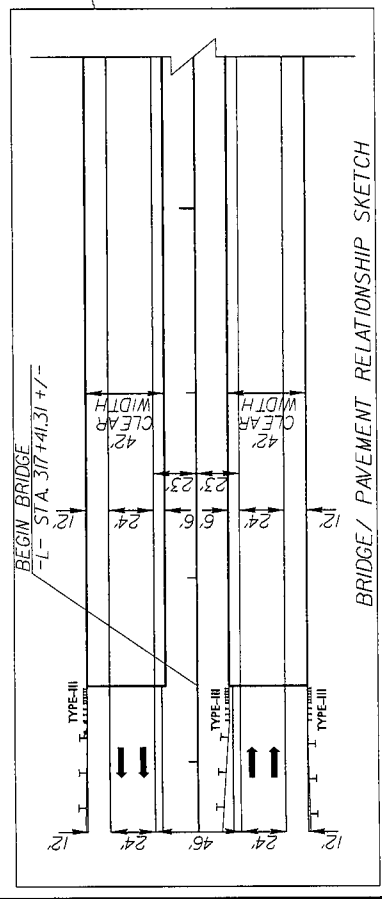
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY EXCAVATION IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND



SEE SHEET 53 FOR -L- PROFILE



MATCH TO SHEET 23 - L - STA. 312+00.00



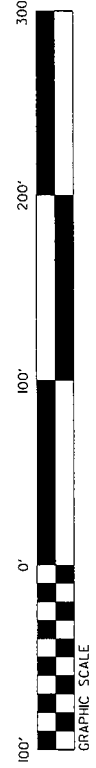
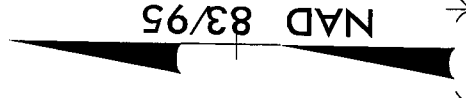
REVISIONS

PROJECT REFERENCE NO. R-2633B
 SHEET NO. 25
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

rev. 5/24/13
 Permit Drawing
 Sheet 45 of 73

MATCH TO SHEET 26 - L - STA. 339+50.00



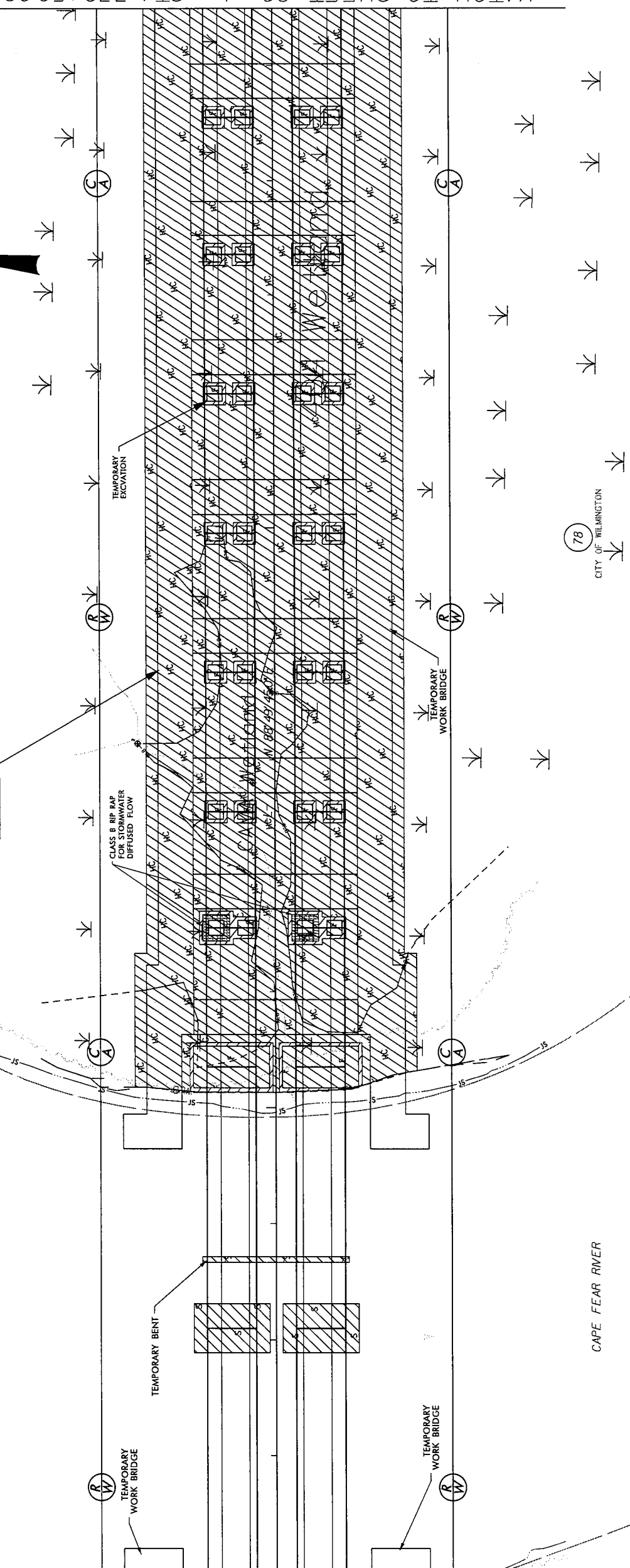
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY EXCAVATION IN WETLAND
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING

SITE 15

335
 78
 CITY OF WILMINGTON

330

MATCH TO SHEET 24 - L - STA. 326+00.00



CAPE FEAR RIVER

59
 TDM PARTNERS, L.T.D.

8/17/99

REVISIONS

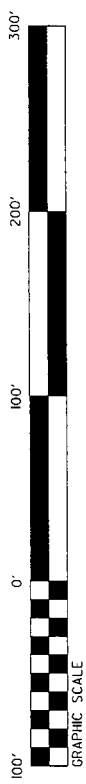
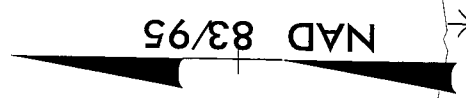
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SEE SHEET 53 FOR -L- PROFILE

PROJECT REFERENCE NO. R-2633B
 SHEET NO. 25
 RW SHEET NO. HYDRAULICS ENGINEER
 ROADWAY DESIGN ENGINEER
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

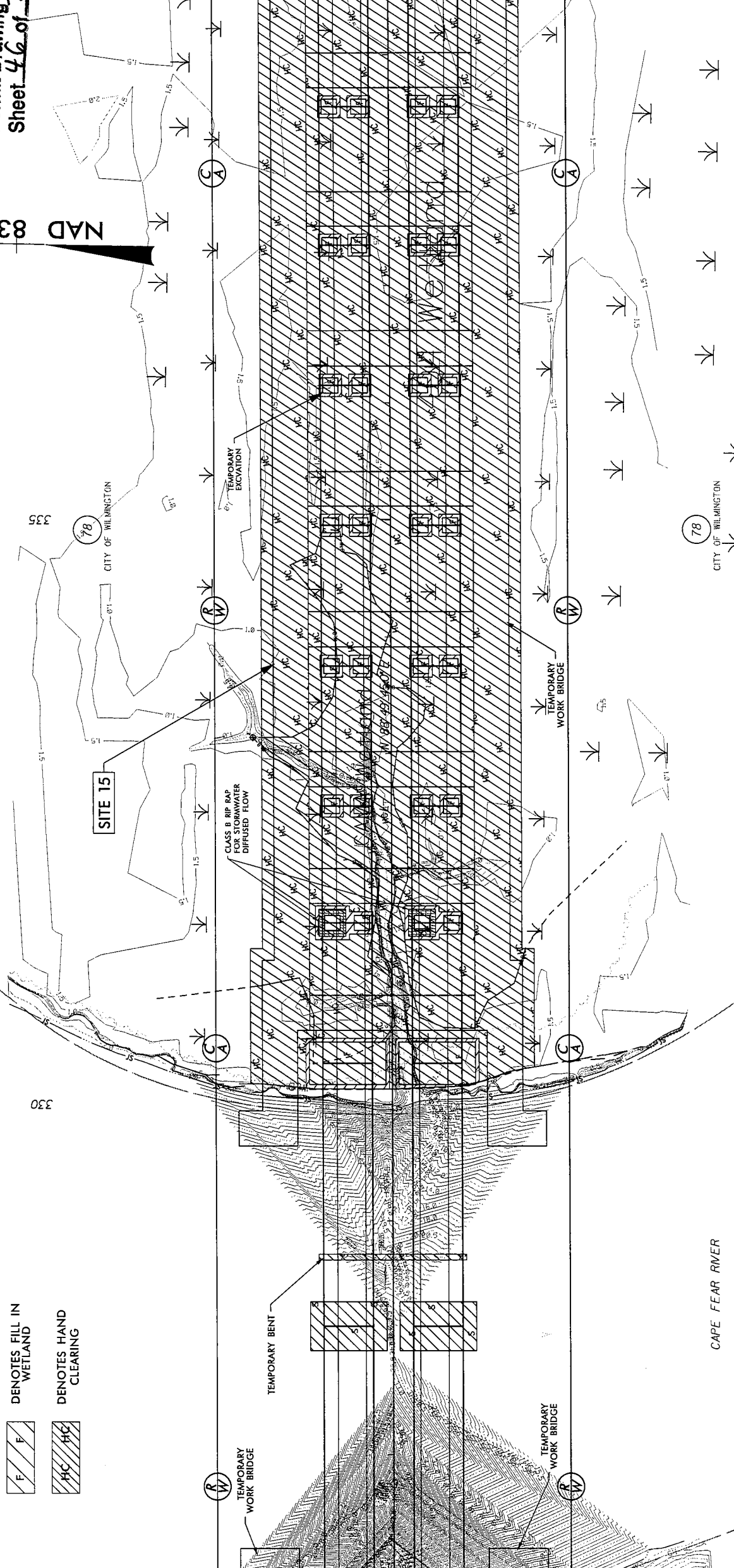
REV. 5/24/13
 Permit Drawing
 Sheet 46 of 73



- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY EXCAVATION IN WETLAND
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING

MATCH TO SHEET 24 - L - STA. 326+00.00

MATCH TO SHEET 26 - L - STA. 339+50.00



CAPE FEAR RIVER

59
 TDM PARTNERS, L.T.D.

SEE SHEET 53 FOR -L- PROFILE

REVISIONS

5/24/2013
 H:\Hydro\Projects\Permit\Stream & Wetland\R-2633-hydro\pm\wet\psh2\psh2.dgn
 8/17/2013

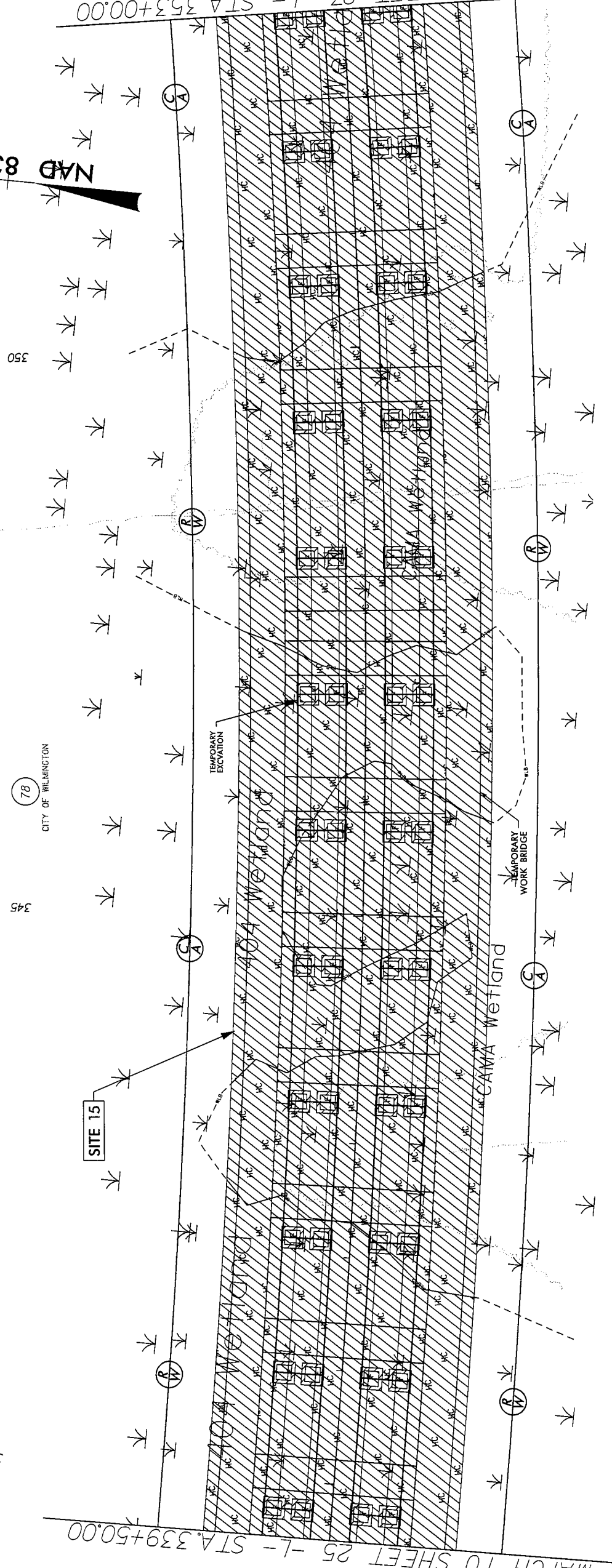
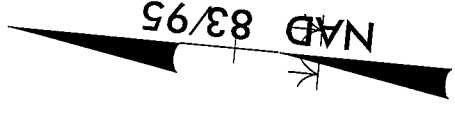
PROJECT REFERENCE NO. R-2633B
 SHEET NO. 26
 RW SHEET NO.
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

Rev. 5/24/13
 Permit Drawing 73
 Sheet 47 of



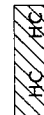
MATCH TO SHEET 27 - L - STA. 353+00.00

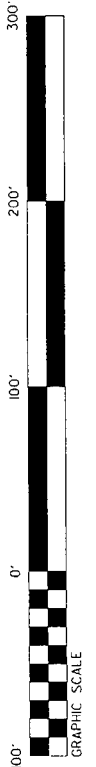
MATCH TO SHEET 25 - L - STA. 339+50.00



(78)
 CITY OF WILMINGTON

(78)
 CITY OF WILMINGTON

-  DENOTES TEMPORARY EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING



SEE SHEET 54 FOR -L- PROFILE

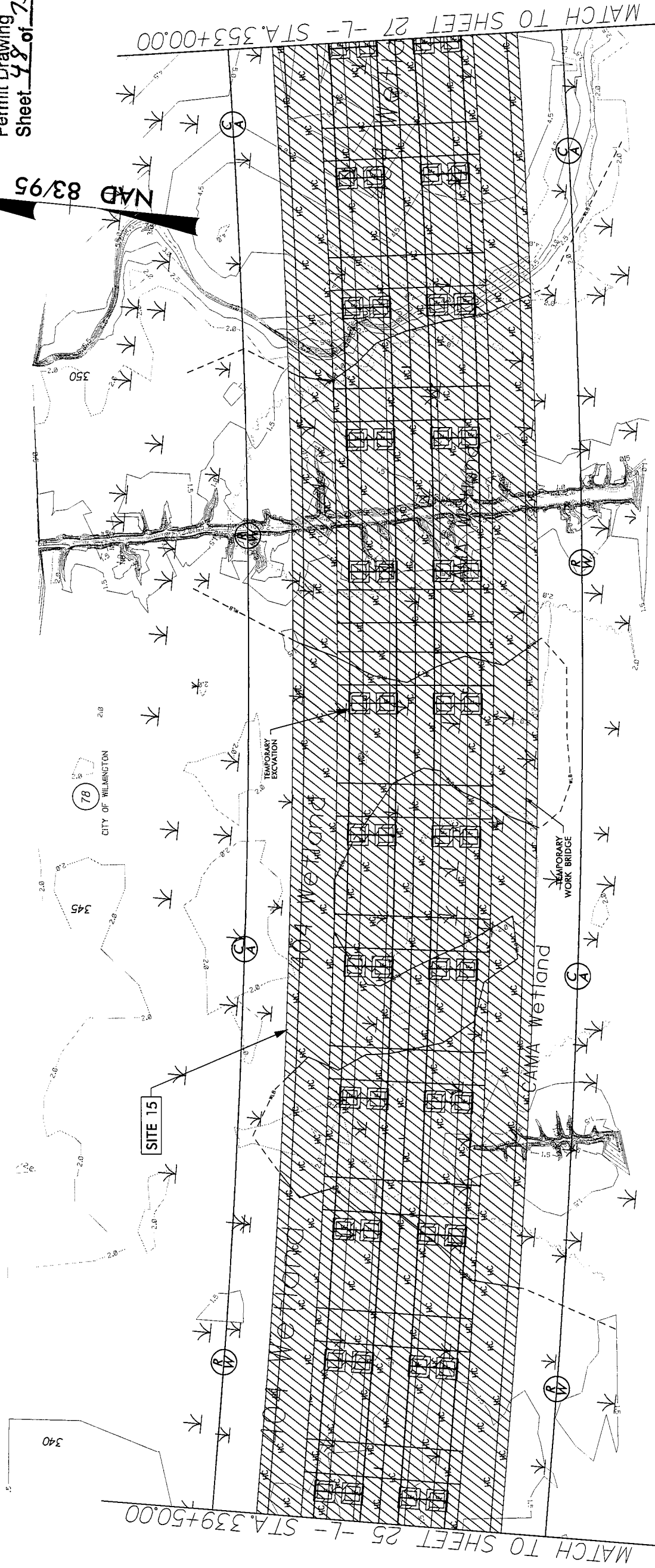
REVISIONS

8/17/99 5/24/2013 13:22:00 \\c:\permits\str\com & wetland\R-2633\hyd.prm.wetland\psk26.dgn

PROJECT REFERENCE NO. R-2633B
 SHEET NO. 26
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

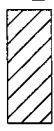

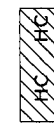
LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

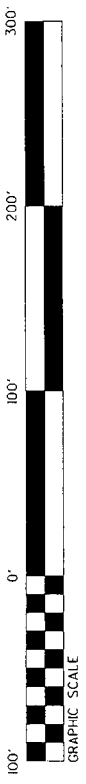
rev. 5/24/13
 Permit Drawing
 Sheet 48 of 73



MATCH TO SHEET 25 - L - STA. 339+50.00

MATCH TO SHEET 27 - L - STA. 353+00.00

-  DENOTES TEMPORARY EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING



(78)
 CITY OF WILMINGTON

SEE SHEET 54 FOR -L- PROFILE

REVISIONS

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LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO. R-2633B

RAW SHEET NO. 27

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

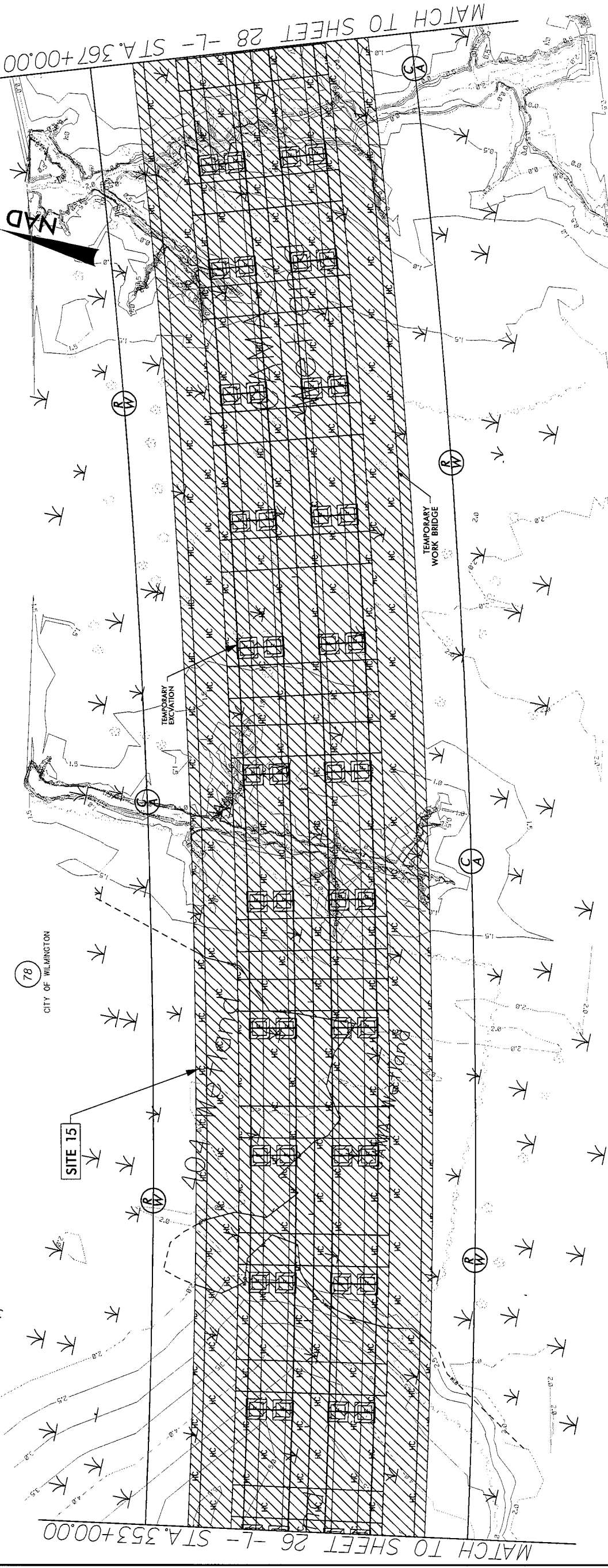
rev. 5/24/13
Permit Drawing
Sheet 49 of 73

MAD 83/95

365

360

355



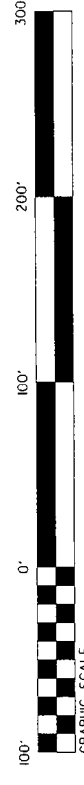
MATCH TO SHEET 28 - L - STA. 367+00.00

MATCH TO SHEET 26 - L - STA. 353+00.00

78
CITY OF WILMINGTON

78
CITY OF WILMINGTON

- DENOTES TEMPORARY EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING



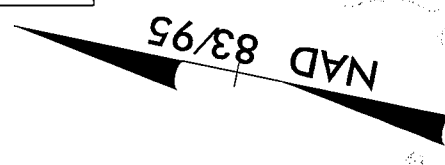
REVISIONS

SEE SHEET 54 FOR -L- PROFILE

PROJECT REFERENCE NO. R-2633B
 SHEET NO. 27
 RW SHEET NO. HYDRAULICS ENGINEER
 ROADWAY DESIGN ENGINEER
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

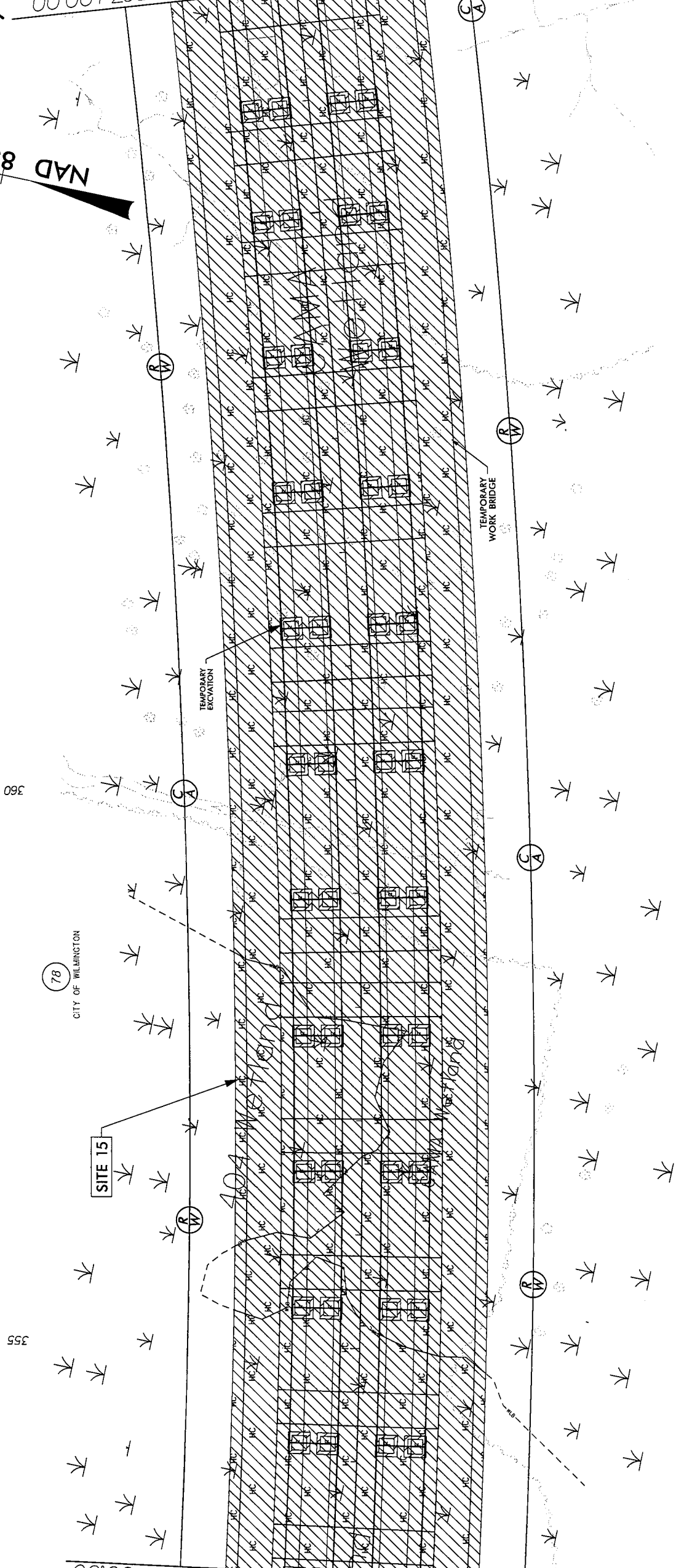
LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

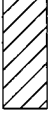


Permit Drawing
 Sheet 50 of 73
 rev. 5/24/13

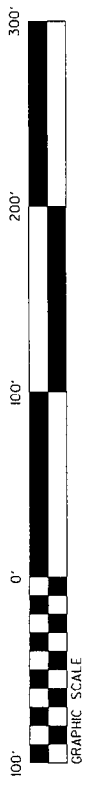


MATCH TO SHEET 28 - L - STA. 367+00.00

MATCH TO SHEET 26 - L - STA. 353+00.00



-  DENOTES TEMPORARY EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING



78 CITY OF WILMINGTON

78 CITY OF WILMINGTON

355

355

360

SITE 15

REVISIONS

SEE SHEET 54 FOR -L- PROFILE

8/17/99 7/24/2013 I:\Projects\2013\Permit\5151\Stream & Wetland\F-2633B-hyd.plm-wet.pln27.dgn

LOCHNER

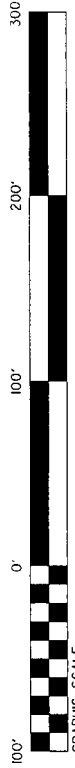
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

| | |
|---|---------------------|
| PROJECT REFERENCE NO. R-2633B | SHEET NO. 28 |
| RW SHEET NO. ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing 73
Sheet 52 of 73
rev. 5/24/13

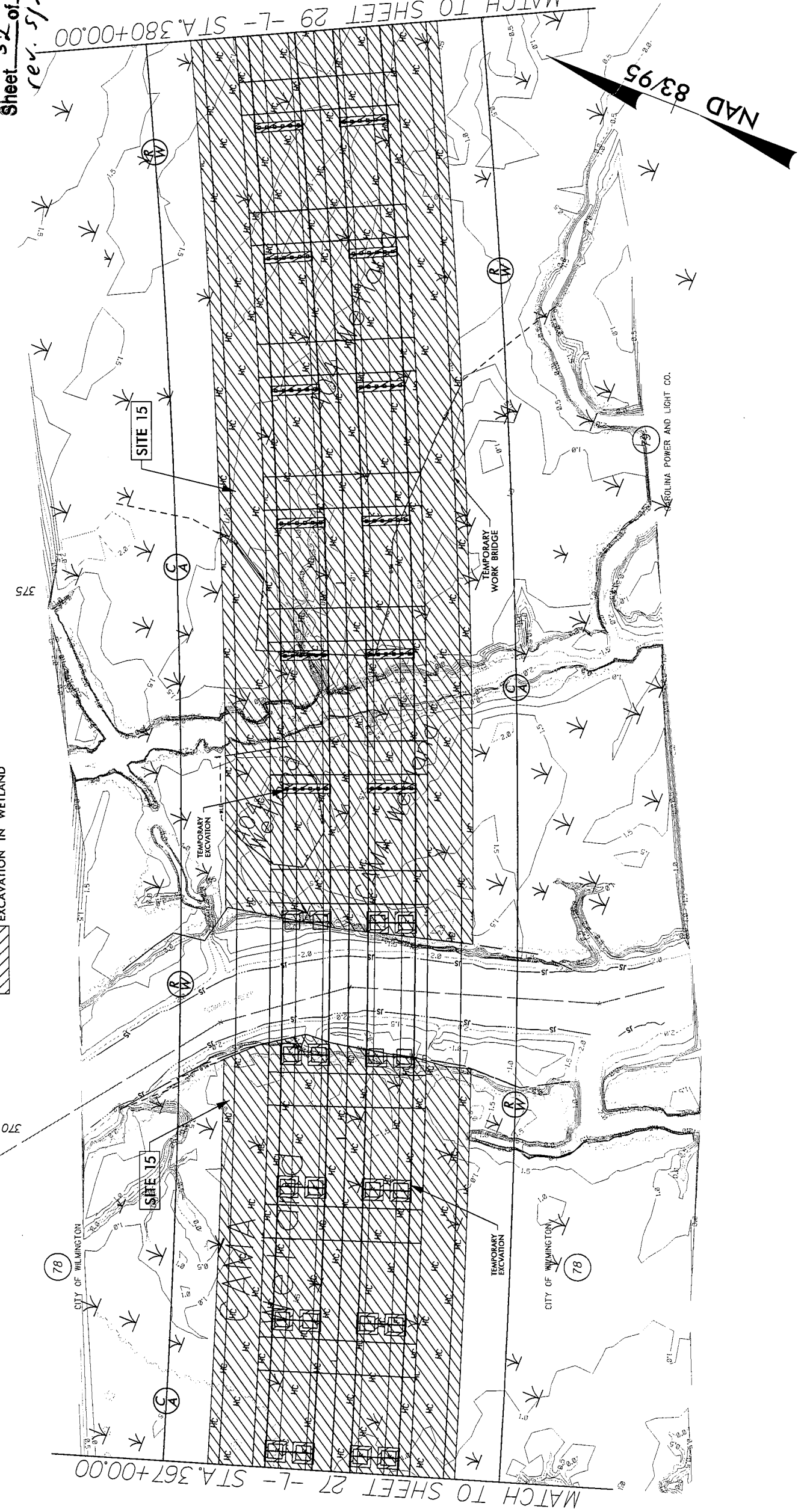
79
CAROLINA POWER AND LIGHT CO.



- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES TEMPORARY EXCAVATION IN WETLAND

MATCH TO SHEET 29 - L - STA. 380+00.00

MATCH TO SHEET 27 - L - STA. 367+00.00



SEE SHEET 55 FOR -L- PROFILE

REVISIONS

8/17/99 11:54:2013 \\h111001\csl\Permits\Stream W. Wetland\R-2633B\hwy\pdm-wetlandps8.dgn

PROJECT REFERENCE NO. R-2633B
 RW SHEET NO. 28
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

rev. 5/24/13
 Permit Drawing
 Sheet 21 of 23

79
 CAROLINA POWER AND LIGHT CO.

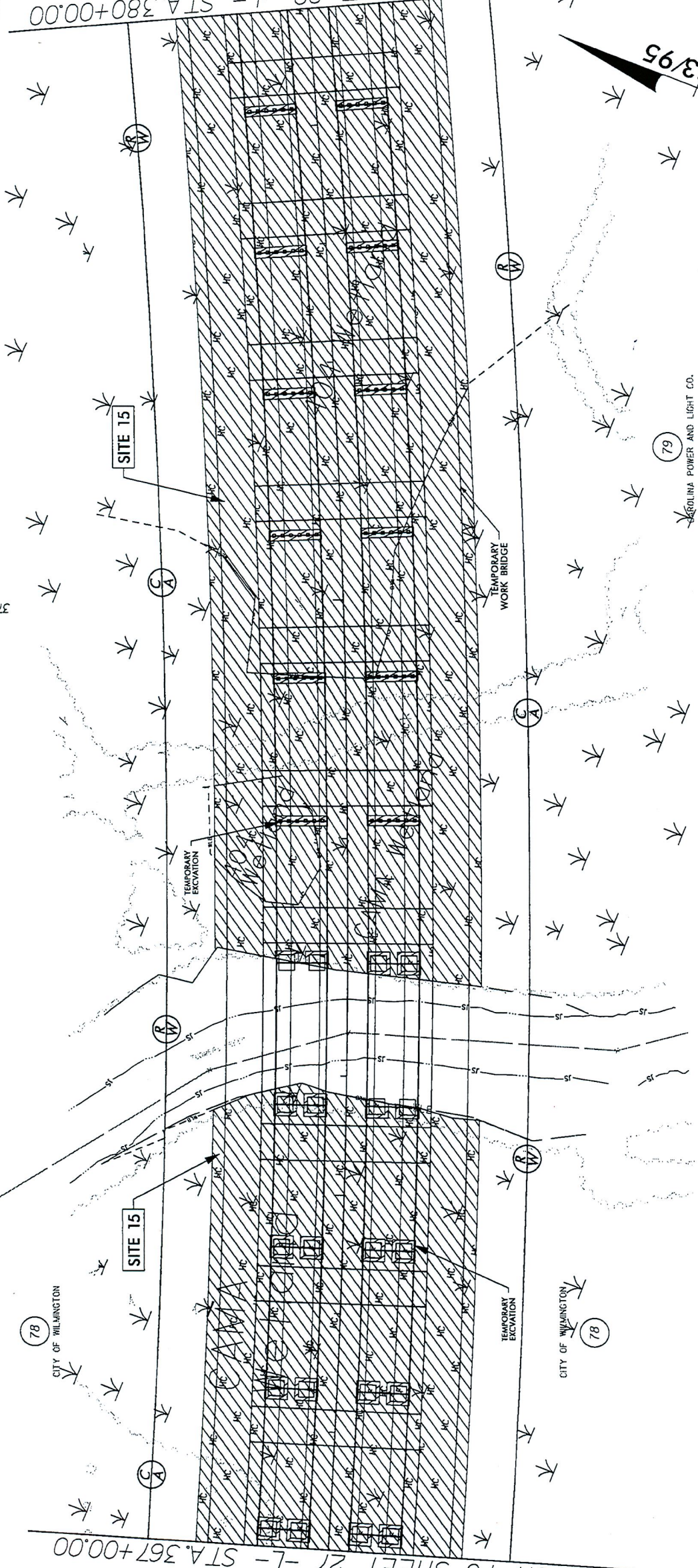


- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES TEMPORARY EXCAVATION IN WETLAND

MATCH TO SHEET 29 - L - STA. 380+00.00

MATCH TO SHEET 27 - L - STA. 367+00.00

NAD 83/95



78
 CITY OF WILMINGTON

78
 CITY OF WILMINGTON

79
 CAROLINA POWER AND LIGHT CO.

REVISIONS

5/24/2013
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SEE SHEET 55 FOR -L- PROFILE


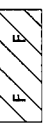

PROJECT REFERENCE NO. R-2633B
 SHEET NO. 29
 HYDRAULICS ENGINEER
 ROADWAY DESIGN ENGINEER
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

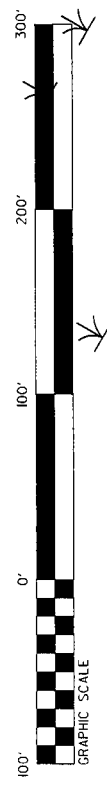
LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

Permit Drawing
 Sheet 53 of 73
 rev. 5/24/13

MATCH TO SHEET 30 - L - STA. 393+00.00

MATCH TO SHEET 28 - L - STA. 380+00.00

-  DENOTES TEMPORARY EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING

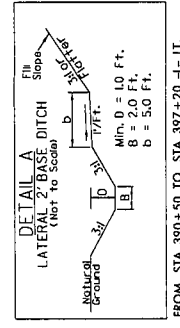
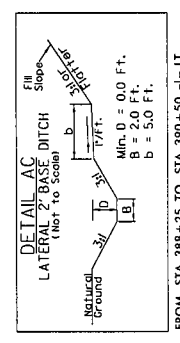
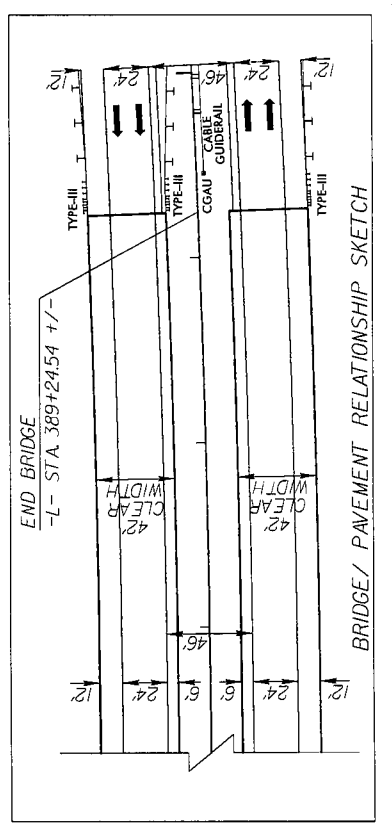
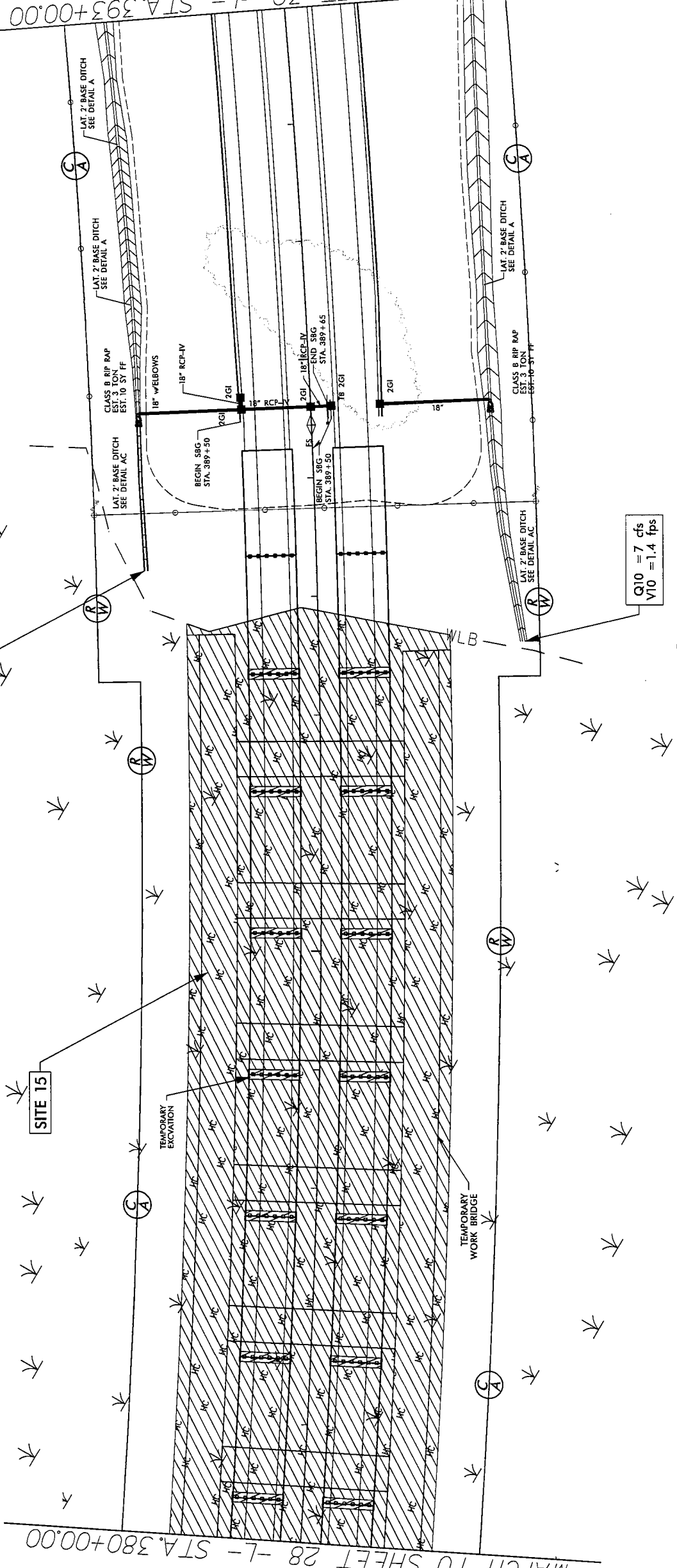


Q10 = 16 cfs
 V10 = 1.3 fps

Q10 = 7 cfs
 V10 = 1.4 fps

79
 CAROLINA POWER AND LIGHT CO.

79
 CAROLINA POWER AND LIGHT CO.



FROM STA. 390+50 TO STA. 397+20 -L- RT.
 FROM STA. 389+00 TO STA. 397+00 -L- RT.

FROM STA. 388+25 TO STA. 390+50 -L- RT.
 FROM STA. 387+60 TO STA. 389+00 -L- RT.

SEE SHEET 55 FOR -L- PROFILE

REVISIONS

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO. R-2633B

SHEET NO. 29

RAW SHEET NO.

ROADWAY DESIGN ENGINEER

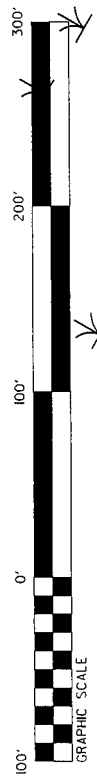
HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 54 of 73
rev. 5/24/13

CAROLINA POWER AND LIGHT CO.

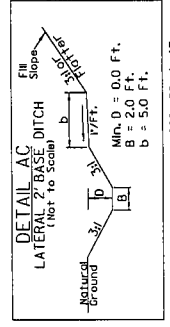
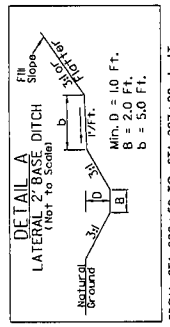
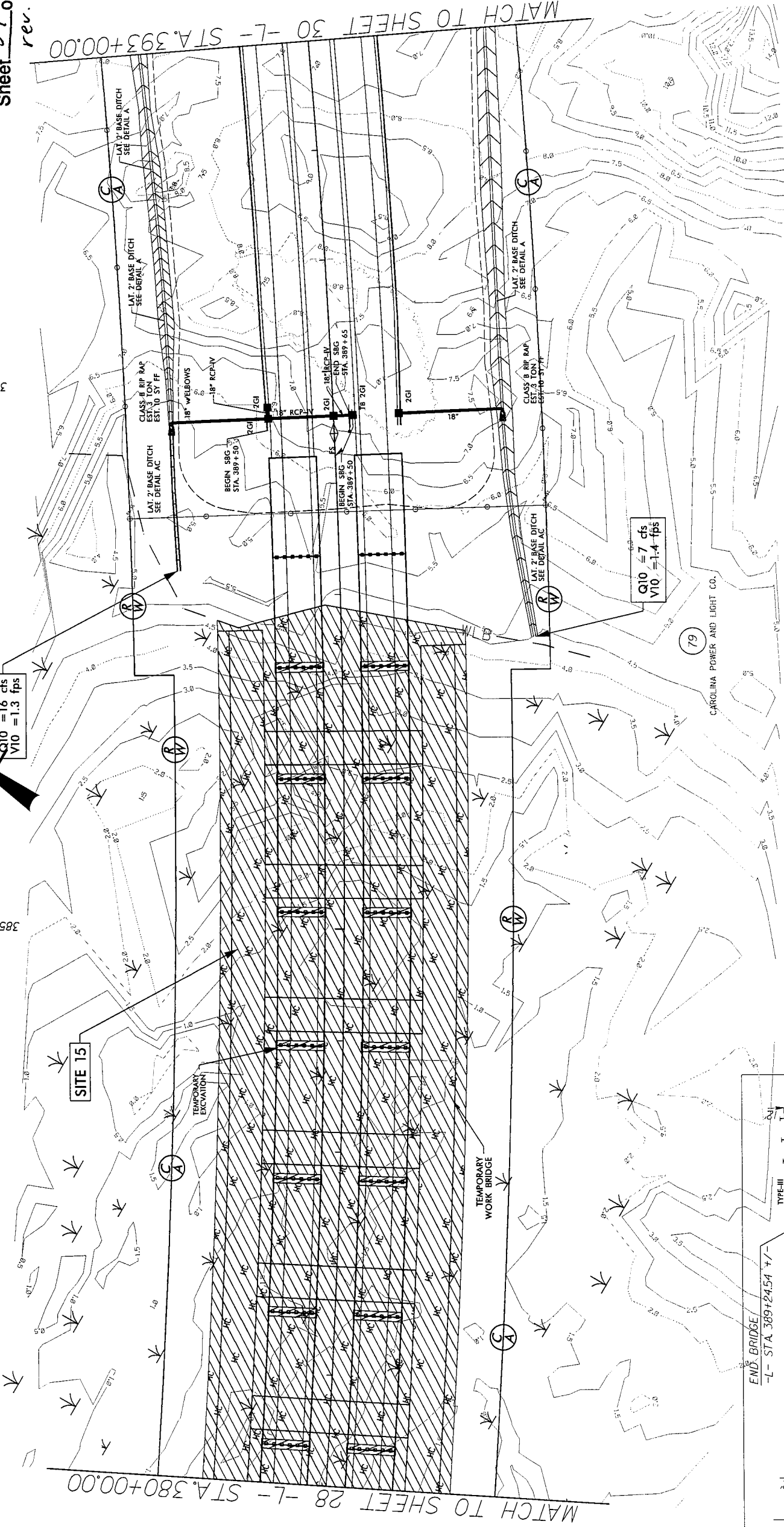
Q10 = 16 cfs
V10 = 1.3 fps



- DENOTES TEMPORARY EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING

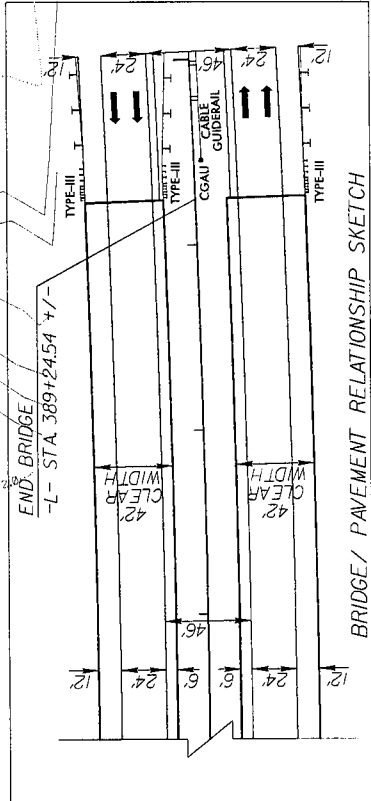
MATCH TO SHEET 28 - L - STA. 380+00.00

MATCH TO SHEET 30 - L - STA. 393+00.00



FROM STA. 390+50 TO STA. 397+20 -L- RT.

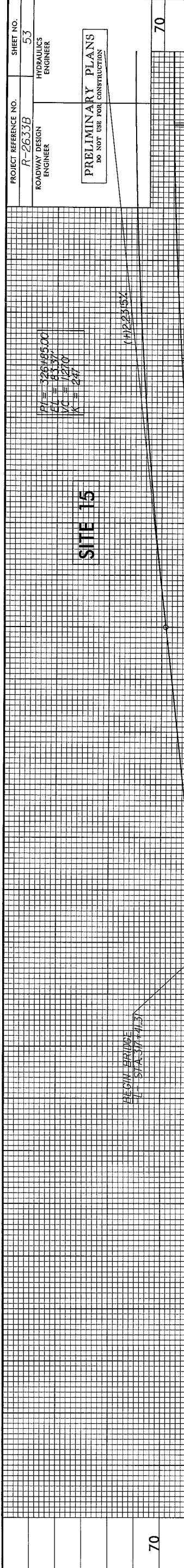
FROM STA. 388+25 TO STA. 390+50 -L- RT.
FROM STA. 387+60 TO STA. 389+00 -L- RT.



SEE SHEET 55 FOR -L- PROFILE

REVISIONS

5/24/2015 11:52 AM C:\Users\jshelton\Documents\Projects\26333\hyd\pml\wetland\psh2\psh2.dgn



PROJECT REFERENCE NO.
R-2633B
ROADWAY DESIGN
ENGINEER

SHEET NO.
53
HYDRAULICS
ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SITE 15

PERMIT DRAWING
Sheet 5.5 of 7.3

BRIDGE

1
PI = 326+85.00
LL = 83.37
VC = 127.0
K = 247

2
MAINTAIN OPEN ROADSIDE FOR BRIDGE CONSTRUCTION. (PER CONC)

3
15' X 15' BRIDGE FOOTING (FT)

4
15' X 15' BRIDGE FOOTING (FT)

5
15' X 15' BRIDGE FOOTING (FT)

6
15' X 15' BRIDGE FOOTING (FT)

7
15' X 15' BRIDGE FOOTING (FT)

8
15' X 15' BRIDGE FOOTING (FT)

9
15' X 15' BRIDGE FOOTING (FT)

10
15' X 15' BRIDGE FOOTING (FT)

11
15' X 15' BRIDGE FOOTING (FT)

12
15' X 15' BRIDGE FOOTING (FT)

13
15' X 15' BRIDGE FOOTING (FT)

14
15' X 15' BRIDGE FOOTING (FT)

15
15' X 15' BRIDGE FOOTING (FT)

16
15' X 15' BRIDGE FOOTING (FT)

17
15' X 15' BRIDGE FOOTING (FT)

18
15' X 15' BRIDGE FOOTING (FT)

19
15' X 15' BRIDGE FOOTING (FT)

20
15' X 15' BRIDGE FOOTING (FT)

SEE SHEET 25-L- PLAN VIEW

PI = 326+85.00
LL = 83.37
VC = 127.0
K = 247

ENG'S ELEVATION 567
PI = 326+85.00
LL = 83.37
VC = 127.0
K = 247

ENG'S ELEVATION 287
PI = 326+85.00
LL = 83.37
VC = 127.0
K = 247

PI = 326+85.00
LL = 83.37
VC = 127.0
K = 247

SITE 15

SITE 15

BRIDGE

LEFT DITCH

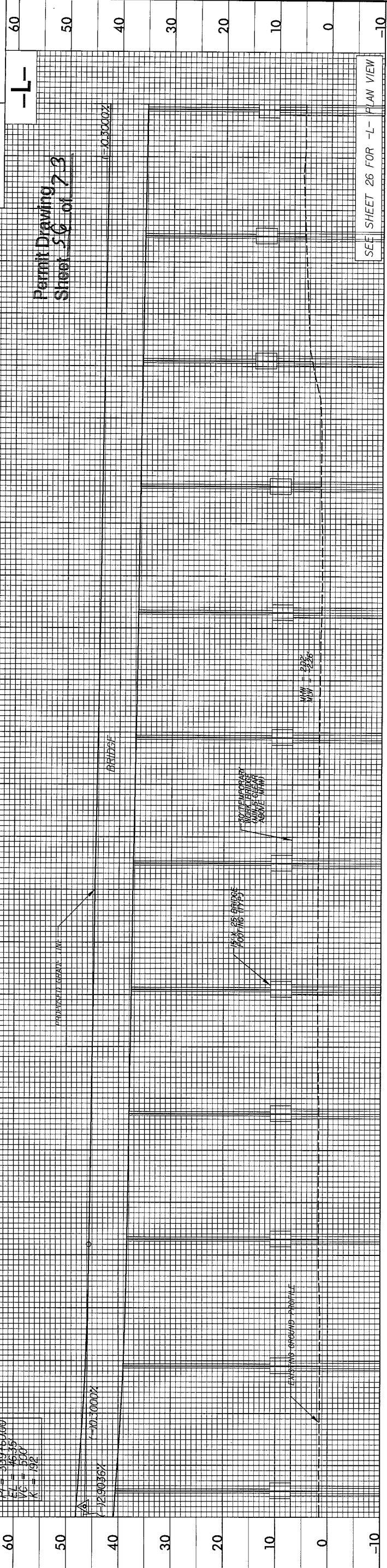
PROJECT REFERENCE NO. R-2633B
 ROADWAY DESIGN ENGINEER
 SHEET NO. 54
 HYDRAULICS ENGINEER

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

SITE 15

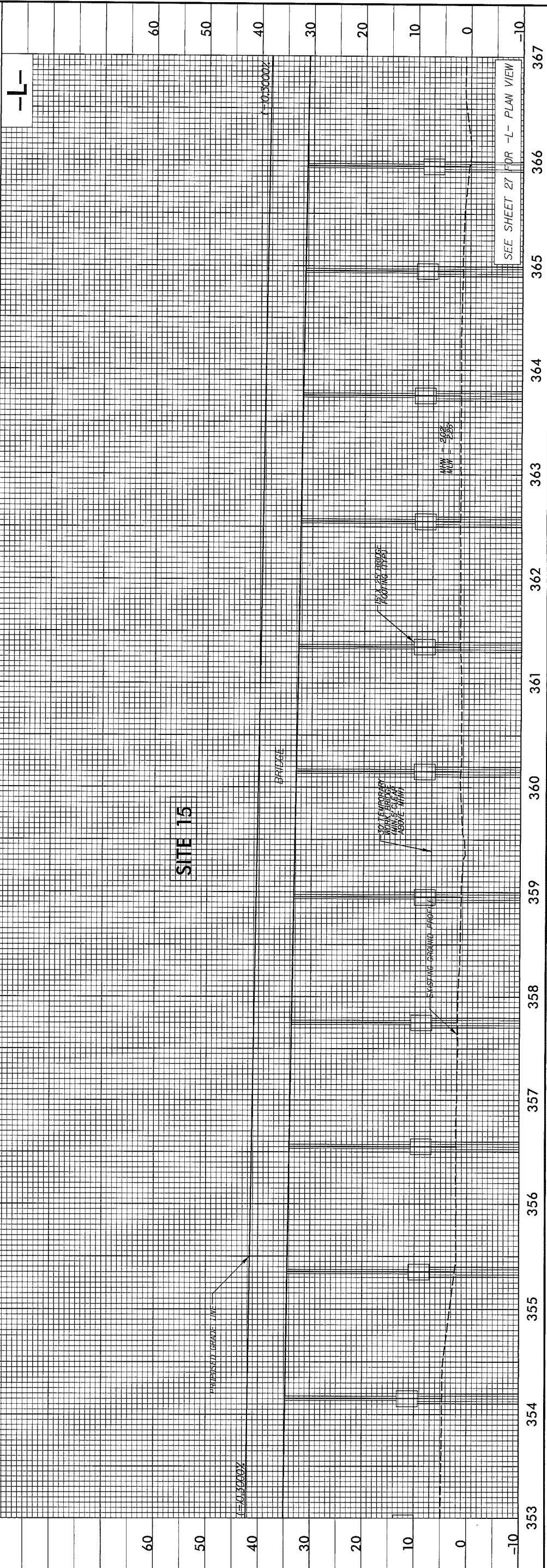
Permit Drawing
 Sheet 50 of 73

PI = 339+60.00
 EL = 46.35
 VC = 500'
 K = 192



SITE 15

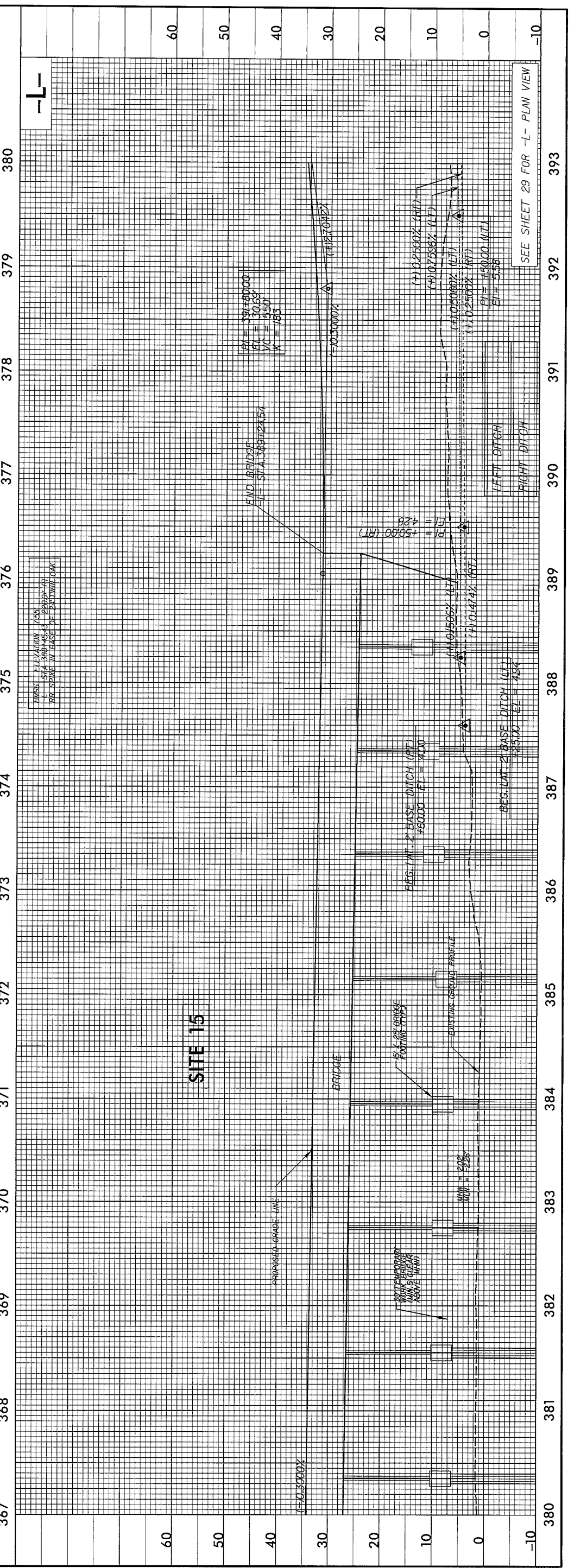
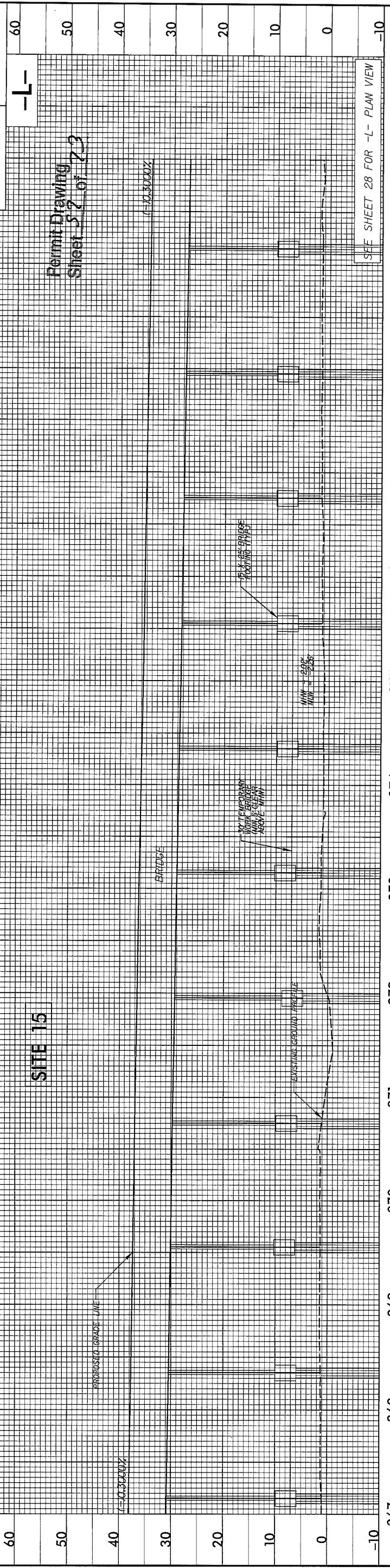
SEE SHEET 27 FOR -L- PLAN VIEW



PROJECT REFERENCE NO. R-2633B
 ROADWAY DESIGN ENGINEER

SHEET NO. 55
 HYDRAULICS ENGINEER

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



Permit Drawing
 Sheet 58 of 73

79
 CAROLINA POWER AND LIGHT CO.

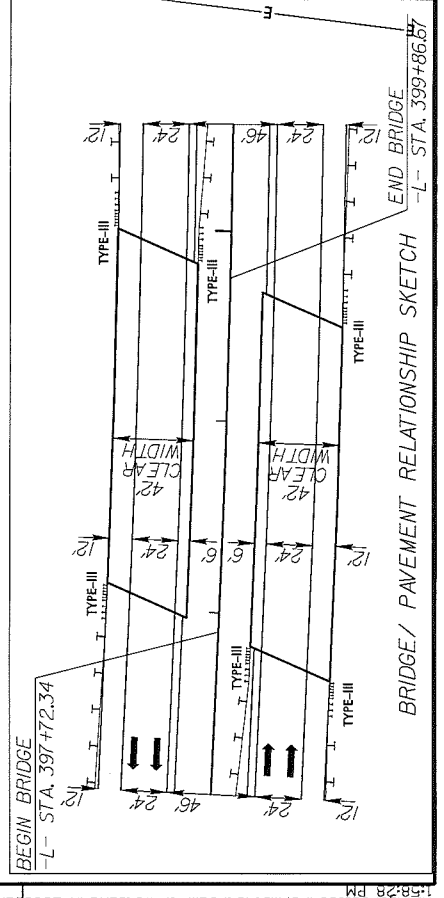
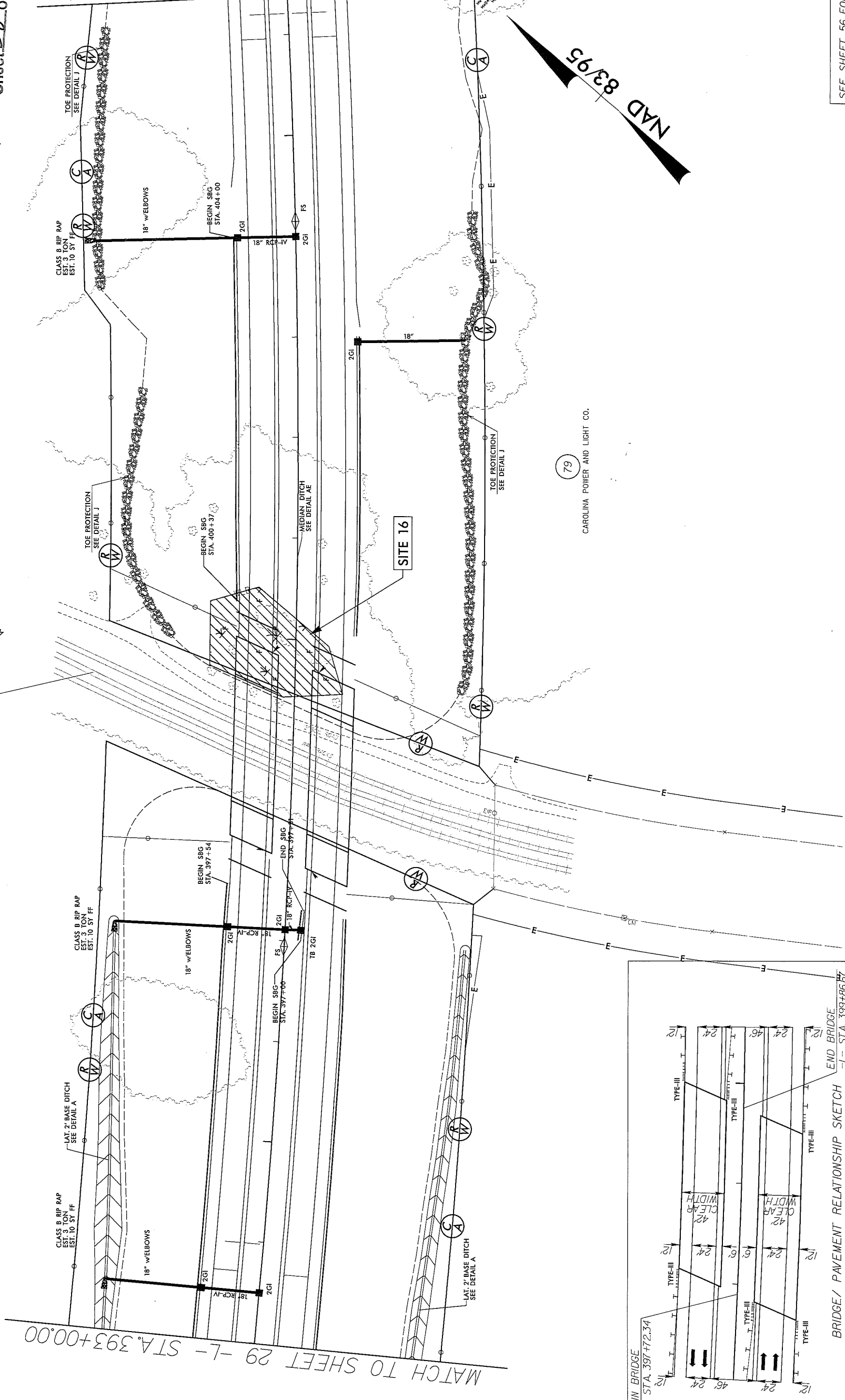
NOTE: TEMPORARY RAILROAD GRADE CROSSING.

395

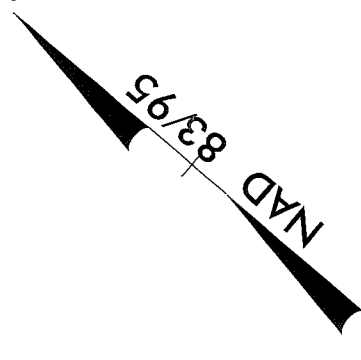
405

MATCH TO SHEET 29 - L - STA. 393+00.00

MATCH TO SHEET 31 - L - STA. 406+40.00



79
 CAROLINA POWER AND LIGHT CO.



REVISIONS

RW Revision: August 5, 2008, Revised rw label -L- Sta. 397+15 from 205' RT to 195' RT.

PROJECT REFERENCE NO. R-2633B
 SHEET NO. 30
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER
PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

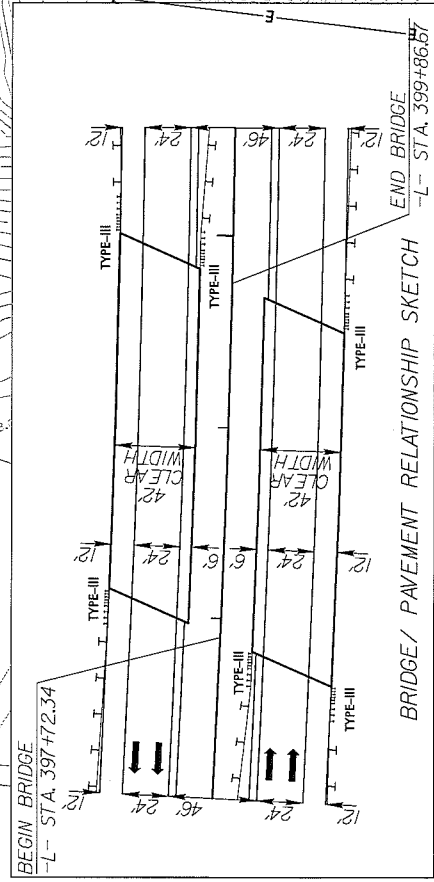
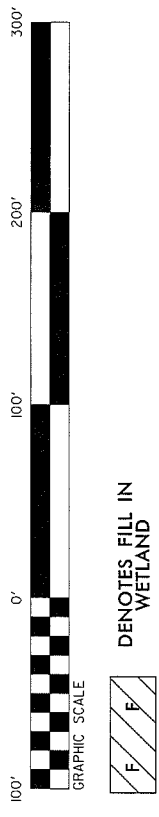
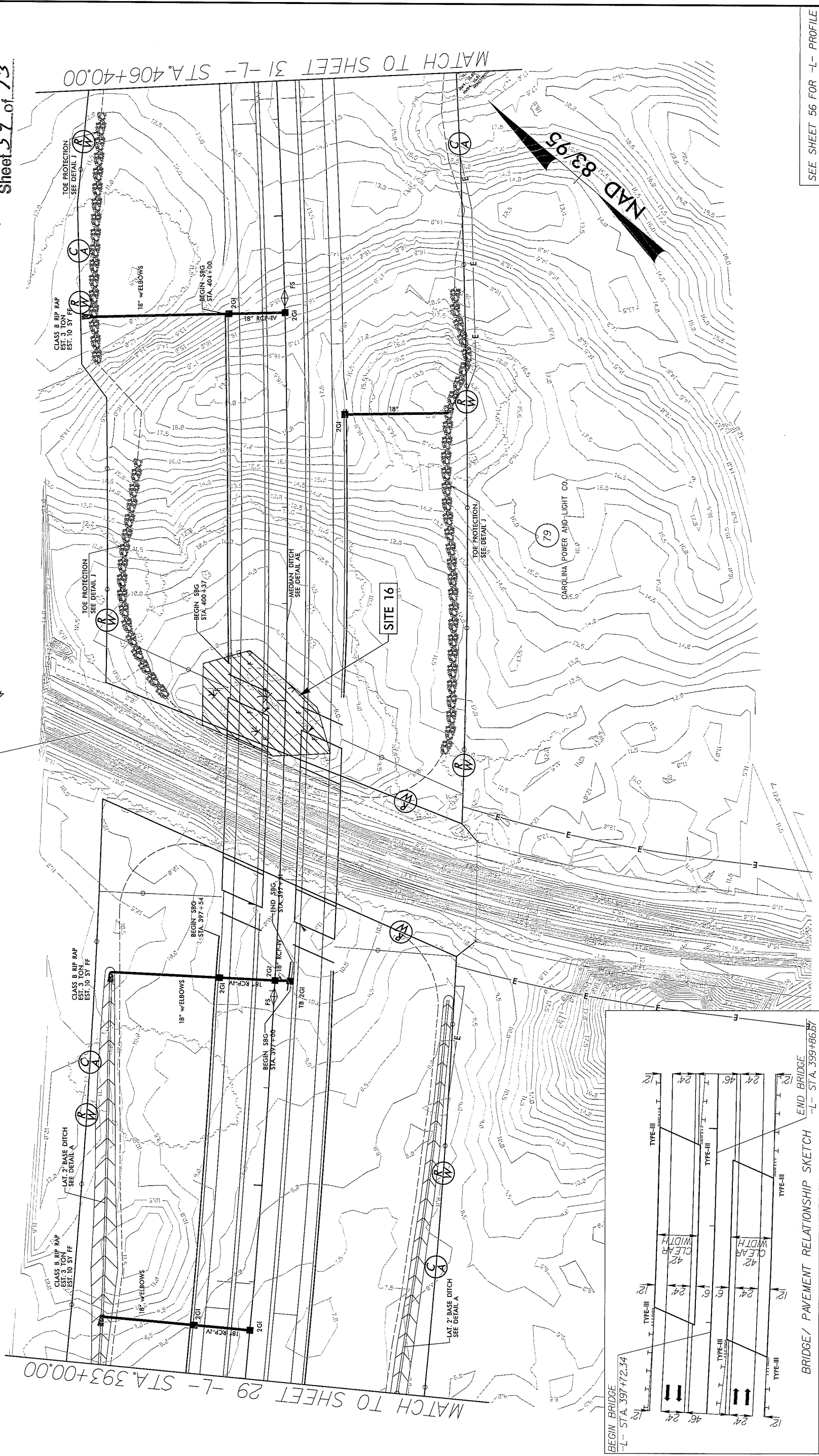
LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

Permit Drawing
 Sheet 57 of 73

CAROLINA POWER AND LIGHT CO.

79

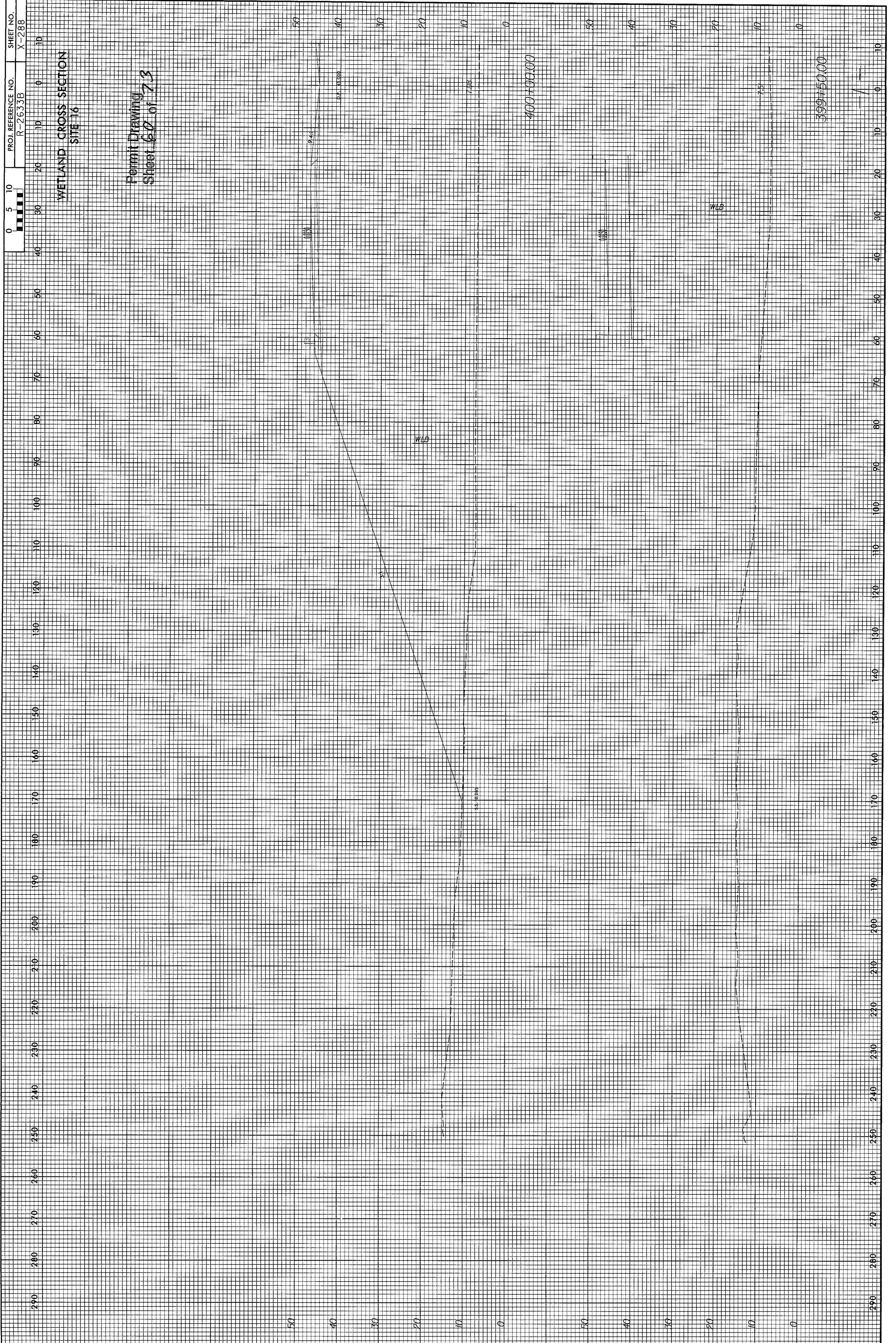
NOTE: TEMPORARY RAILROAD GRADE CROSSING.



SEE SHEET 56 FOR -L- PROFILE

REVISIONS

RW Revision: August 5, 2008, Revised RW label - Sta. 397+15 from 205' RT to 195' RT.



0 5 10
PROJ. REFERENCE NO. R-2633B
SHEET NO. X-288

WETLAND CROSS SECTION
SITE 16

Permit Drawing
Sheet 60 of 73

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290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50

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30
20
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0

400+00.00

50
40
30
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0

599+50.00

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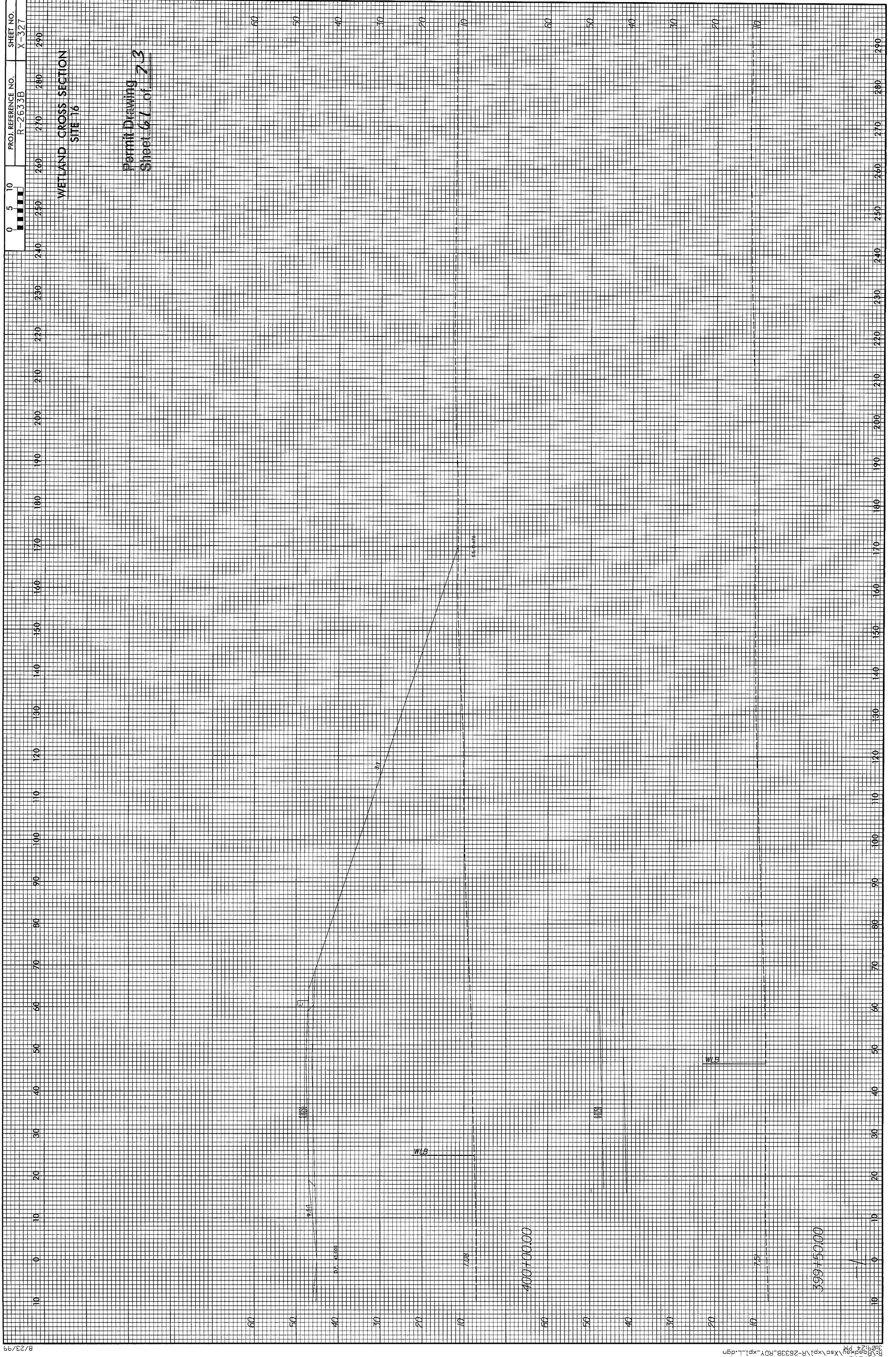
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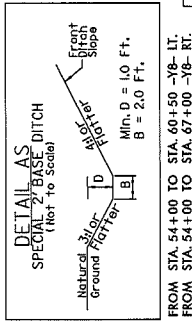
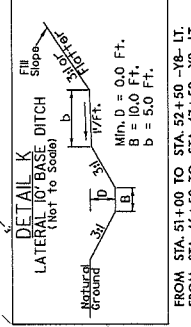
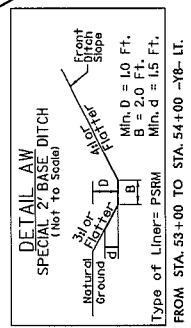
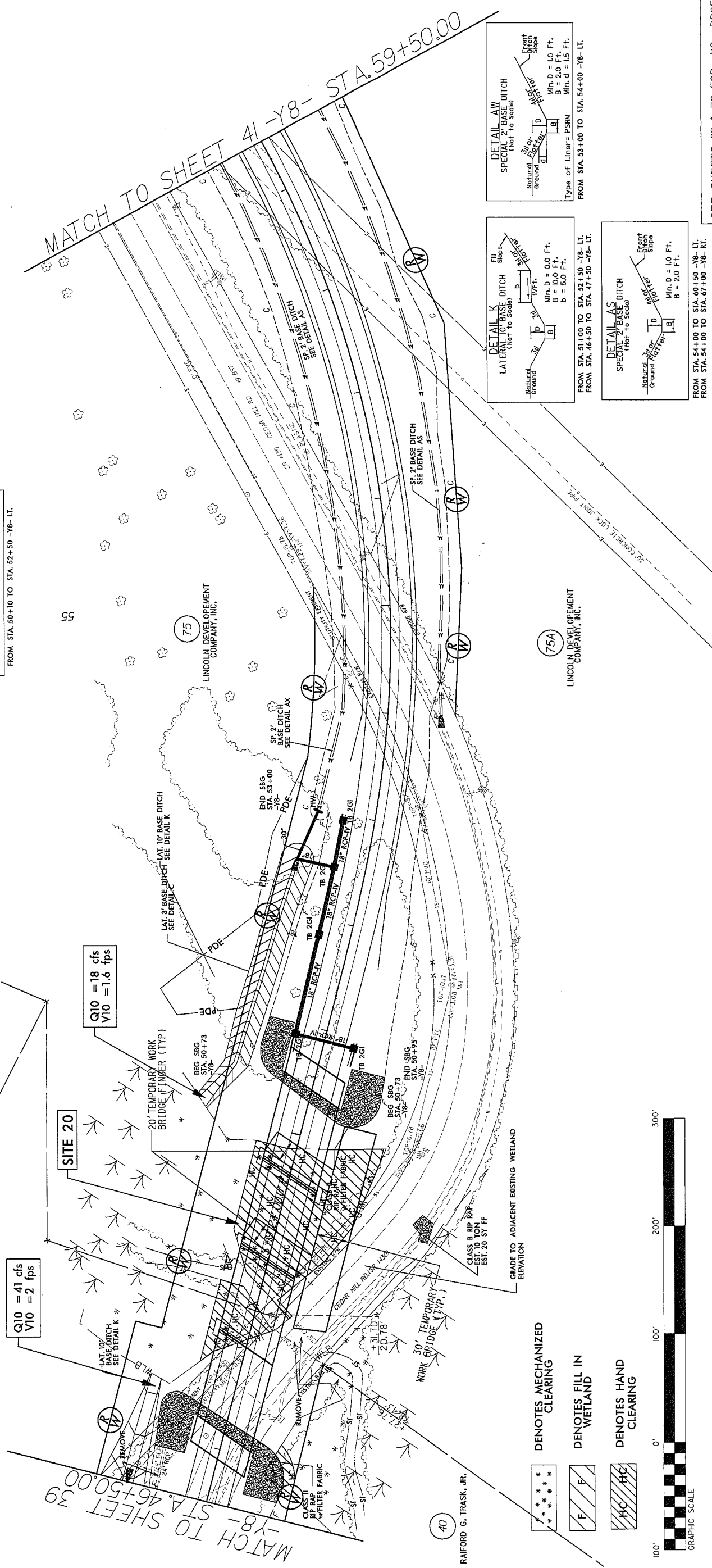
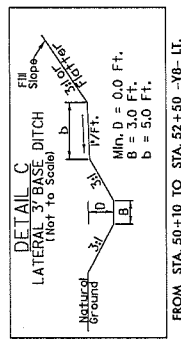
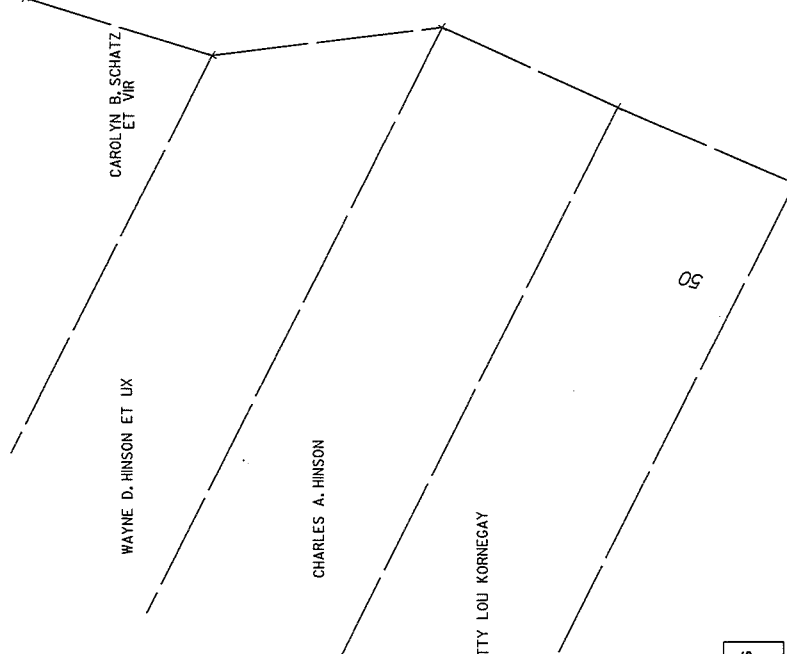
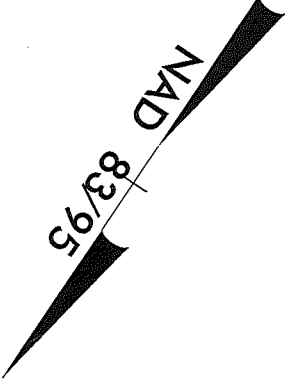
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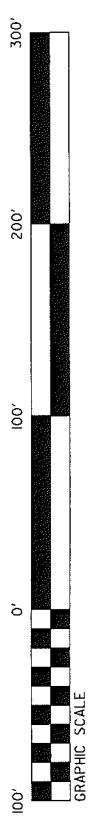
LOCHNER
 H. W. LOCHNER, INC.
 2840 PLAZA PLACE, SUITE 202
 RALEIGH, NC 27612

PROJECT REFERENCE NO. **R-2633B** SHEET NO. **40**
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER
PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

Permit Drawing
 Sheet 68 of 73



- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING



SEE SHEETS 69 & 70 FOR -Y8- PROFILE

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

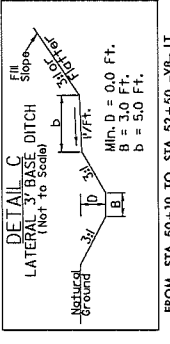
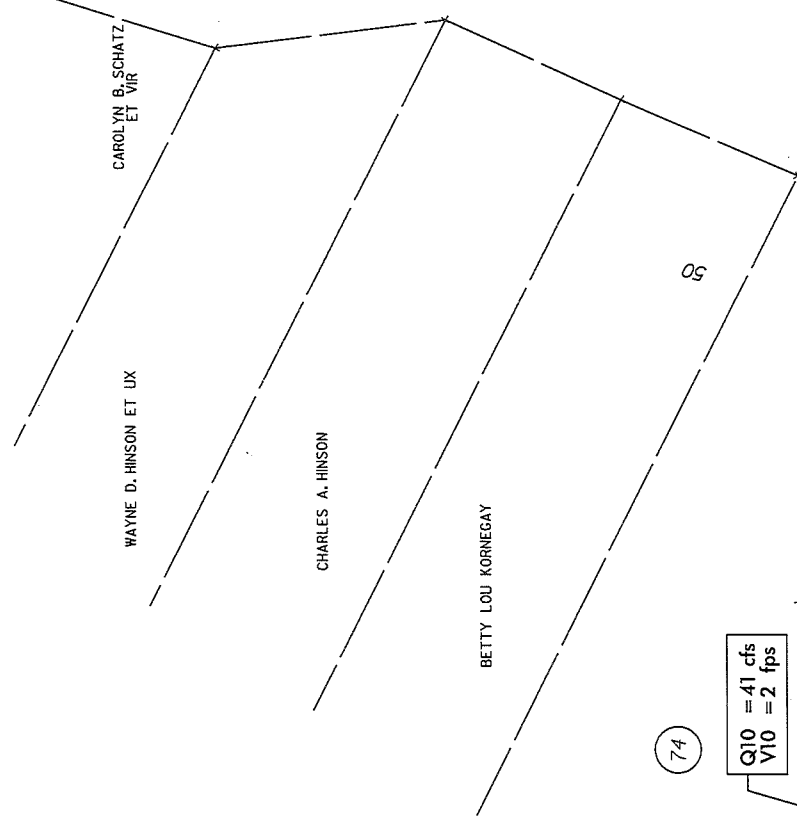
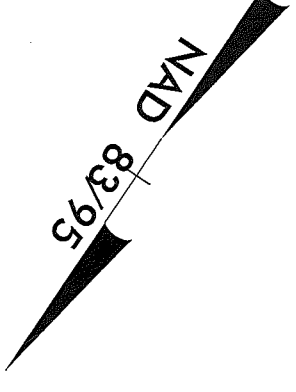
PROJECT REFERENCE NO.
R-2633B

SHEET NO.
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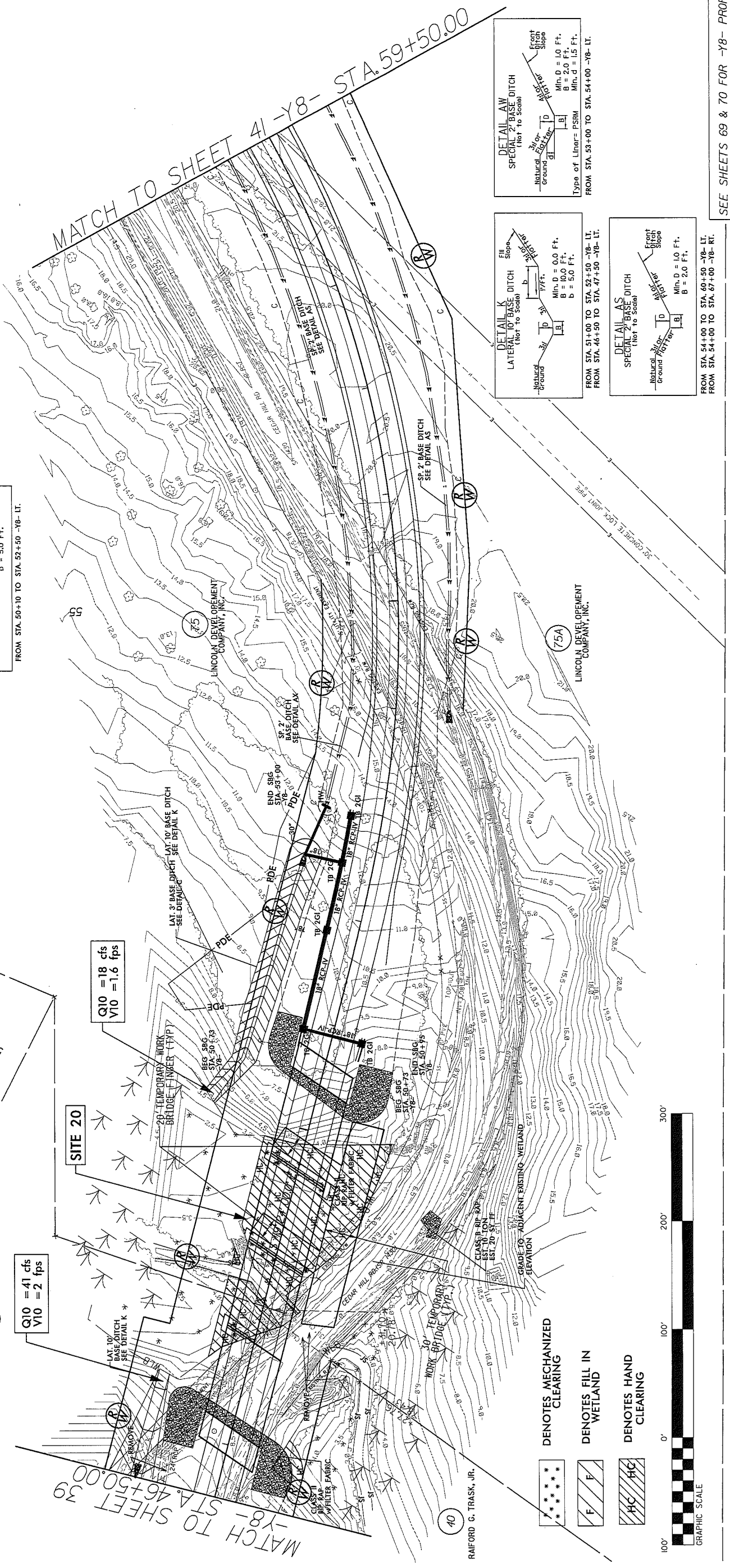
RAW SHEET NO.
HYDRAULICS
ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 69 of 73



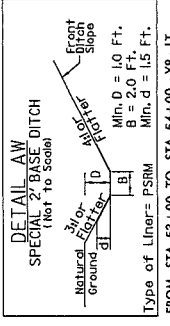
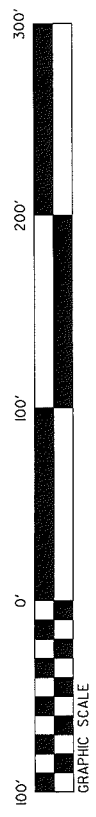
FROM STA. 50+10 TO STA. 52+50 -Y8- LT.



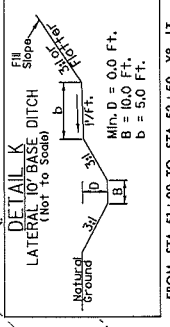
Q10 = 41 cfs
V10 = 2 fps

Q10 = 18 cfs
V10 = 1.6 fps

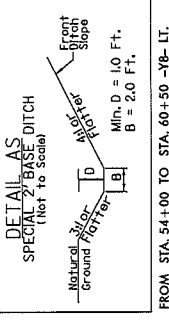
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING



FROM STA. 53+00 TO STA. 54+00 -Y8- LT.

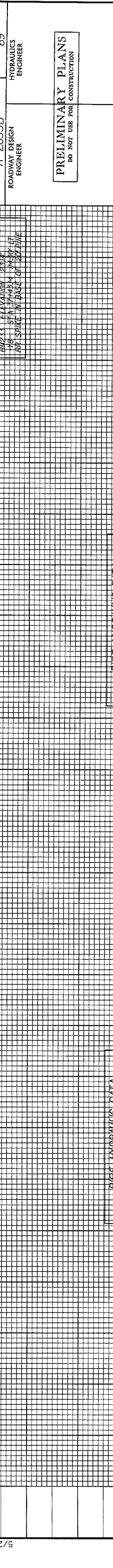


FROM STA. 46+50 TO STA. 47+50 -Y8- LT.



FROM STA. 54+00 TO STA. 60+50 -Y8- LT.
FROM STA. 54+00 TO STA. 67+00 -Y8- RT.

SEE SHEETS 69 & 70 FOR -Y8- PROFILE



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-Y8-

Permit Drawing
 Sheet 70 of 73

SEE SHEETS 22 & 39 FOR -Y8- PLAN VIEW

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PIPE HYDRAULIC DATA

| | |
|-----------------------|-----------|
| DRAINAGE AREA | AC |
| DESIGN FREQUENCY | 50 YRS |
| DESIGN DISCHARGE | 100 CFS |
| DESIGN HW ELEVATION | 11.3 FT |
| 100 YEAR DISCHARGE | 20.35 CFS |
| 100 YEAR HW ELEVATION | 12.8 FT |
| OVERTOPPING FREQUENCY | 500 YRS |
| OVERTOPPING DISCHARGE | 126 CFS |
| OVERTOPPING ELEVATION | 20.5 FT |

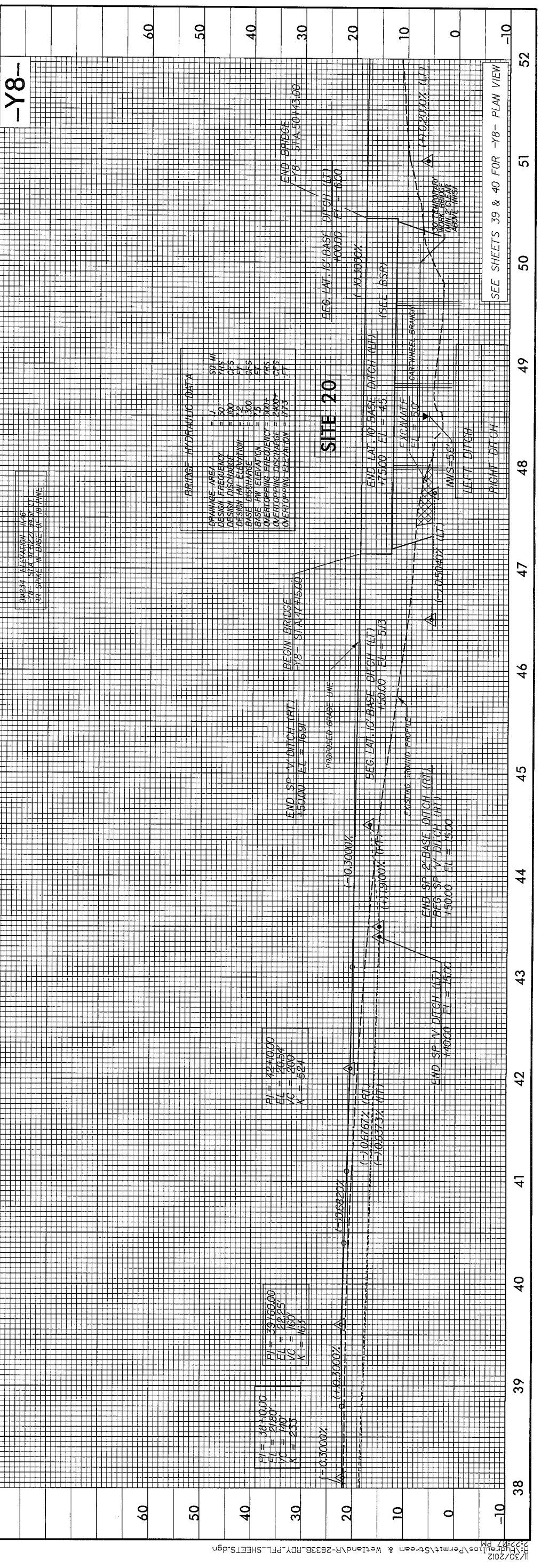
PIPE HYDRAULIC DATA

| | |
|-----------------------|----------|
| DRAINAGE AREA | AC |
| DESIGN FREQUENCY | 50 YRS |
| DESIGN DISCHARGE | 31 CFS |
| DESIGN HW ELEVATION | 20.68 FT |
| 100 YEAR DISCHARGE | 21 CFS |
| 100 YEAR HW ELEVATION | 21 FT |
| OVERTOPPING FREQUENCY | 500 YRS |
| OVERTOPPING DISCHARGE | 31 CFS |
| OVERTOPPING ELEVATION | 21 FT |

BRIDGE HYDRAULIC DATA

| | |
|-----------------------|----------|
| GRAINAGE AREA | 50 MI |
| DESIGN FREQUENCY | 50 YRS |
| DESIGN DISCHARGE | 100 CFS |
| DESIGN HW ELEVATION | 12 FT |
| BASE DISCHARGE | 1360 CFS |
| BASE HW ELEVATION | 15 FT |
| OVERTOPPING FREQUENCY | 500 YRS |
| OVERTOPPING DISCHARGE | 2400 CFS |
| OVERTOPPING ELEVATION | 17.5 FT |

SITE 20



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38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

-Y8-

SEE SHEETS 39 & 40 FOR -Y8- PLAN VIEW

END SP V-DITCH (RT)
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PROPERTY OWNERS

NAMES AND ADDRESSES

| REFERENCE NO. | NAMES | ADDRESSES |
|---------------|------------------------------------|---|
| 35 | E.G.DALE ET UX | PO BOX 157 LELAND, NC 28451 |
| 36 | ANNETTE ANDREWS TROY ET AL | 2107 MT MISERY ROAD LELAND, NC 28451 |
| 39 | LINCOLN DEVELOPMENT CO., INC. | PO BOX 2021 WILMINGTON, NC 28402 |
| 40 | RAEFORD G. TRASK, JR. | 1202 EASTWOOD ROAD WILMINGTON, NC 28403 |
| 59 | TOM PARTNERS, LTD. | 1508 MILITARY CUTOFF RD WILMINGTON, NC 28403 |
| 74 | ESTATE OF ESSIE BLIZZARD | 7524 ELKMONT CIRCLE WILMINGTON, NC 28411 |
| 75 | LINCOLN LAND DEVELOPMENT CO., INC. | PO BOX 2021 WILMINGTON, NC 28402 |
| 78 | CITY OF WILMINGTON | PO BOX 1810 WILMINGTON, NC 28408 |
| 79 | CAROLINA POWER AND LIGHT CO. | 410 SOUTH WILMINGTON ST RALEIGH, NC 27601 |

NCDOT

DIVISION OF HIGHWAYS
BRUNSWICK AND NEW HANOVER
COUNTIES
PROJECT: R-2633B

US 17 FROM 74//76
IN BRUNSWICK COUNTY TO
US 421 IN NEWHANOVER COUNTY

PROPERTY OWNERS

NAMES AND ADDRESSES

| REFERENCE NO. | NAMES | ADDRESSES |
|---------------|----------------------------------|--|
| 2 | T.F.LIMITED HOLDINGS PARTNERSHIP | 1202 EASTWOOD ROAD. WILMIINGTON, NC 28403 |
| 3 | JOHN M.HEWITT,ETUX | PO BOX 273 LELAND, NC 28451 |
| 4 | V.A.CREECH, JR. | PO BOX 66 LELAND, NC 28451 |
| 10 | MLH, LLC. | PO BOX 1967 WILMINGTON, NC 28402 |
| 11 | WCM ENTERPRISES, LLC. | 305 COLONIAL DRIVE WILMINGTON, NC 28403 |
| 13 | CHADWICK-ONE, LLC. | PO BOX 452 LELAND, NC 28451 |
| 15 | BARNEY L.PADGETT ET UX | PO BOX 7332 WILMINGTON, NC 28456 |
| 21 | LOUISE VERZAAL JOYNER | 5644 56th WAY WEST PALM BEACH, FL 33409 |

NCDOT

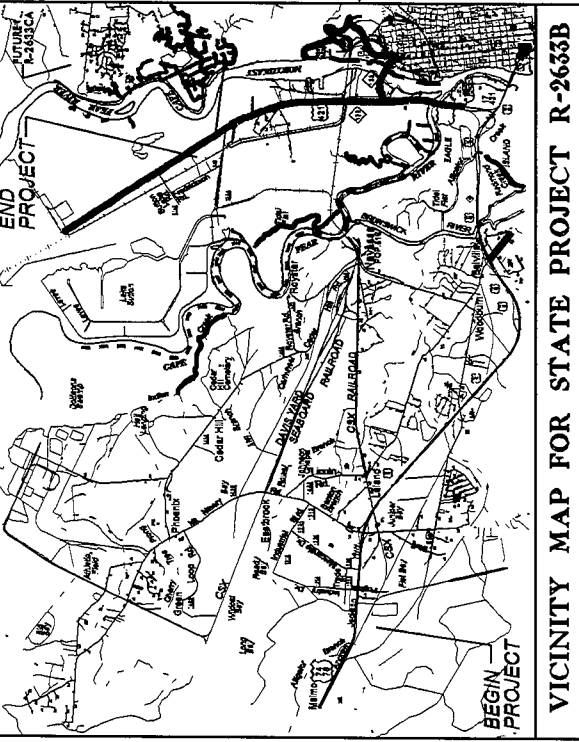
DIVISION OF HIGHWAYS
BRUNSWICK AND NEW HANOVER
COUNTIES
PROJECT: R-2633B

US 17 FROM 74//76
IN BRUNSWICK COUNTY TO
US 421 IN NEWHANOVER COUNTY

| WETLAND PERMIT IMPACT SUMMARY | | | | | | | | | | | | | | | | |
|-------------------------------|---------------------------|-----------------------------------|---------------------------------|-----------------------------|-----------------------------|--------------------------------------|--------------------------------|--------------------------------|---------------------------|-----------------------|---|-------------------------------------|----------------------------|------|--|--|
| WETLAND IMPACTS | | | | | | | | | | | | | | | | |
| * Site No. | Station (From/To) | Structure Size / Type | CAMA | | | 404 | | | SURFACE WATER IMPACTS | | | | | | | |
| | | | Permanent Fill In Wetlands (ac) | Temp. Fill In Wetlands (ac) | Excavation in Wetlands (ac) | Mechanized Clearing in Wetlands (ac) | Hand Clearing in Wetlands (ac) | Hand Clearing in Wetlands (ac) | Permanent SW Impacts (ac) | Temp. SW Impacts (ac) | Existing Channel Impacts Permanent (ft) | Existing Channel Impacts Temp. (ft) | Natural Stream Design (ft) | | | |
| * 1*** | -L-24+75 Lt. | Roadway-Fill | | | | | | | | | | | | | | |
| * 2**** | -L-37+66 Rt. | Bridge | | | | | | | | | | | | | | |
| * 3**** | -L-REV-339+73 to 358+92 | Roadway Fill | 7.45 | | 0.03 | | | | | | | | | | | |
| * 4 | -RP D1-22+60 | Deleted due to new JS delineation | | | | | | | | | | | | | | |
| * 5* | -L-REV-372+74 to -L-65+08 | Roadway Fill | 1.04 | | | | | | | | | | | | | |
| * 6* | -L-109+28 to 134+54 | Roadway Fill | 9.72 | | | | | | | | | | | | | |
| * 6A** | -L-138+11 to 140+70 | Roadway Fill | 0.68 | | | | | | | | | | | | | |
| * 6B** | -L-141+20 to 144+29 | Roadway Fill | 0.41 | | | | | | | | | | | | | |
| * 7* | -L-146+78 to 165+66 | Roadway Fill | 10.55 | | | | | | | | | | | | | |
| * 8 | -L 166+60 | Deleted due to new JS delineation | | | | | | | | | | | | | | |
| * 9* | -L-186+97 to 191+88 | Roadway Fill | 1.04 | | | | | | | | | | | | | |
| * 10 | -RP D2-19+20 Lt. | Deleted due to new JS delineation | | | | | | | | | | | | | | |
| * 11* | -L-194+75 to 216+13 | Roadway Fill: 3@42" | 8.72 | | | | | | | | | | | | | |
| * 12 | -L-230+39 to 242+11 | Deleted due to new JS delineation | | | | | | | | | | | | | | |
| * 13 | -L-256+36 to 265+87 | Deleted due to new JS delineation | | | | | | | | | | | | | | |
| * 14* | -L-264+32 to 266+94 | Bridge | | | | | | | | | | | | | | |
| * 15* | 319+46 to 387+92 | Temp. Work Bridge | | | | | | | | | | | | | | |
| * 16* | -L-399+43 to 400+51 | Temp. Work Bridge | 0.05 | | *****0.93 | | | | | | | | | | | |
| * 17*** | -X5-16+25 Rt. | Roadway Fill | 0.22 | | | | | | | | | | | | | |
| * 18*** | -X5-16+25 Lt. | 48" RCP | | | | | | | | | | | | | | |
| * 19* | -Y7-52+09 | Culvert | | | | | | | | | | | | | | |
| * 19* | -Y7 DET-16+45 | Detour Culvert | | | | | | | | | | | | | | |
| * 20* | -Y8-47+74 to 49+88 | Bridge | <0.01 | | | | | | | | | | | | | |
| * 20* | -Y8-48+78 to 49+95 | Temp. Work Bridge | | | | | | | | | | | | | | |
| TOTALS: | | | 39.89 | 0.06 | 0.96 | 0.07 | 0.07 | 21.40 | 12.49 | 0.20 | 0.63 | 210 | 149 | 0.00 | | |

Site 14 See Structures sheet for Bridge Impacts on Cartwheel Branch
 Site 15 Impacts for Permanent Dual Bridges CAMA=0.07 Ac, 404=0.07 Ac, Surface Water=0.15 Ac, Total=0.15 Ac.
 Site 15 Impacts for Temporary Work Bridge CAMA=0.16 Ac, 404=0.21 Ac, Surface Water=0.01 Ac, Total=0.38 Ac.
 * Revised due to new JS Delineation
 ** New Site due to new JS Delineation
 *** Sites 1, 2, 17, and 18 are now permitted with R-2633AA & AB and the impacts are included with that project.
 **** A portion of Site 3 is now permitted with R-2633AA & AB and the impacts are included with that project.
 ***** Temporary Excavation, CAMA=0.41 Ac, 404=0.52 Ac.; Total=0.91 Ac.
 0.75 acres of Temp. Fill in 404 Wetlands in the Hand Clearing areas for Erosion Control Measures

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BRUNSWICK AND NEW HANOVER COUNTIES
 WBS - 34491.1.2 (R-2633B)
 SHEET 73 of 73
 rev. 5/24/13



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEU PERMIT PLANS BRUNSWICK -NEW HANOVER COUNTY

LOCATION: US 17(WILMINGTON BYPASS) FROM US 7476
EAST OF MALMO IN BRUNSWICK COUNTY TO US 421
NORTH OF WILMINGTON IN NEW HANOVER COUNTY
TYPE OF WORK: UTILITIES RELOCATION

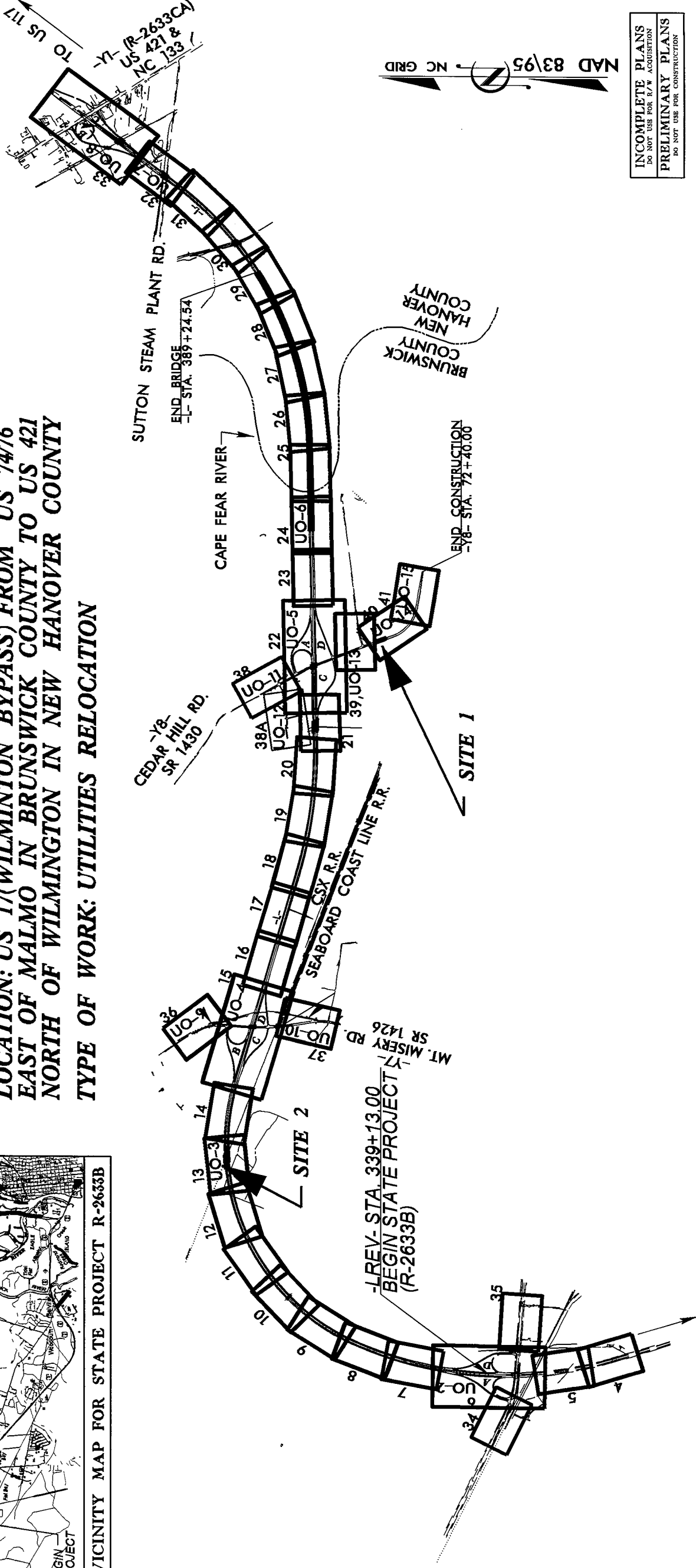
VICINITY MAP FOR STATE PROJECT R-2633B

T.I.P. NO.
R-2633B

SHEET NO.
1

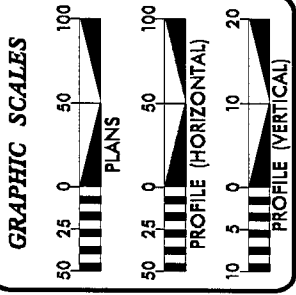
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Utility Permit Drawing
Sheet 1 of 15
Revised 3/28/13



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



INDEX OF SHEETS

| SHEET NO. | DESCRIPTION | TITLE SHEET |
|-----------|------------------|--------------------------|
| NUO-1 | NUO-2 THRU NUO-3 | UTILITY'S WETLAND IMPACT |

UTILITY OWNERS ON PROJECT

(1) POWER : PROGRESS ENERGY
(2) TELEPHONE : AT & T
(3) GAS : PIEDMONT NATURAL GAS

PREPARED IN THE OFFICE OF:

DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-4600
FAX (919) 216-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
R.B. Wilkins, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Jong-Teo Yoon UTILITIES PROJECT DESIGNER

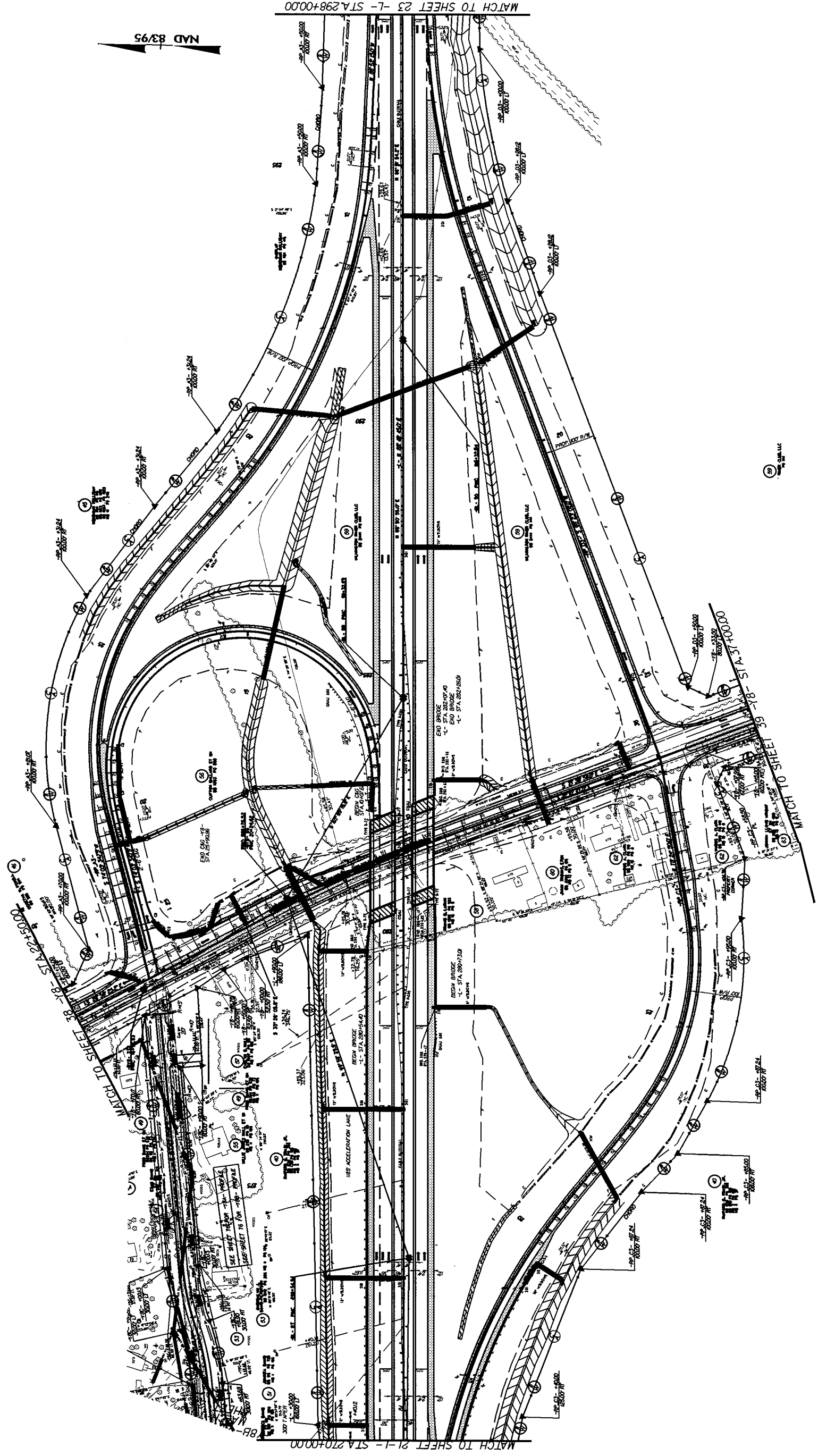
TIP PROJECT: R-2633B

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Utility Permit Drawing
Sheet 5 of 15
Revised 3/12/13



UTILITIES BY OTHERS

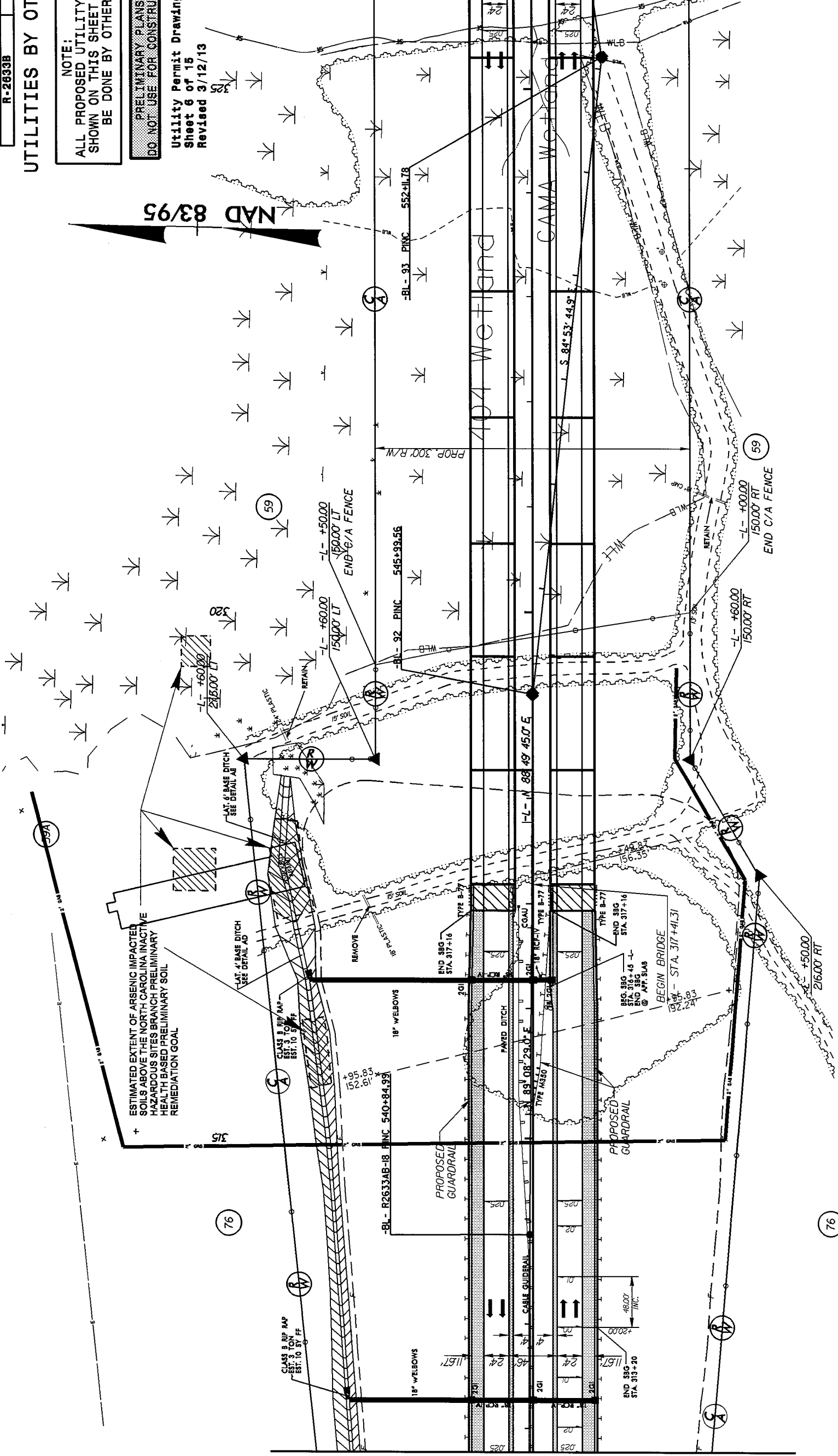
NOTE:
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Utility Permit Drawing
Sheet 6 of 15
Revised 3/12/13

MATCH TO SHEET 25 - L - STA. 326+00.00

MATCH TO SHEET 23 - L - STA. 312+00.00



ESTIMATED EXTENT OF ARSENIC IMPACTED SOILS ABOVE THE NORTH CAROLINA INACTIVE HAZARDOUS SITES BRANCH PRELIMINARY HEALTH BASED PRELIMINARY SOIL REMEDIATION GOAL

77

76

76

UTILITIES BY OTHERS

NOTE:
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Utility Permit Drawing
Sheet 7 of 18
Revised 3/12/13

-RP B4- +28.00
155.00' LT

-RP B4-
PI Sta 11+33.35 PI Sta 15+04.73
Δ = 3'00'00" Δ = 18'07'51.4" (LT)
D = 200.00' D = 3'00'00"
LS = 200.00' L = 604.36'
ST = 1333.35' T = 3047.3'
R = 66.66' R = 1909.86'
e = 5.5%

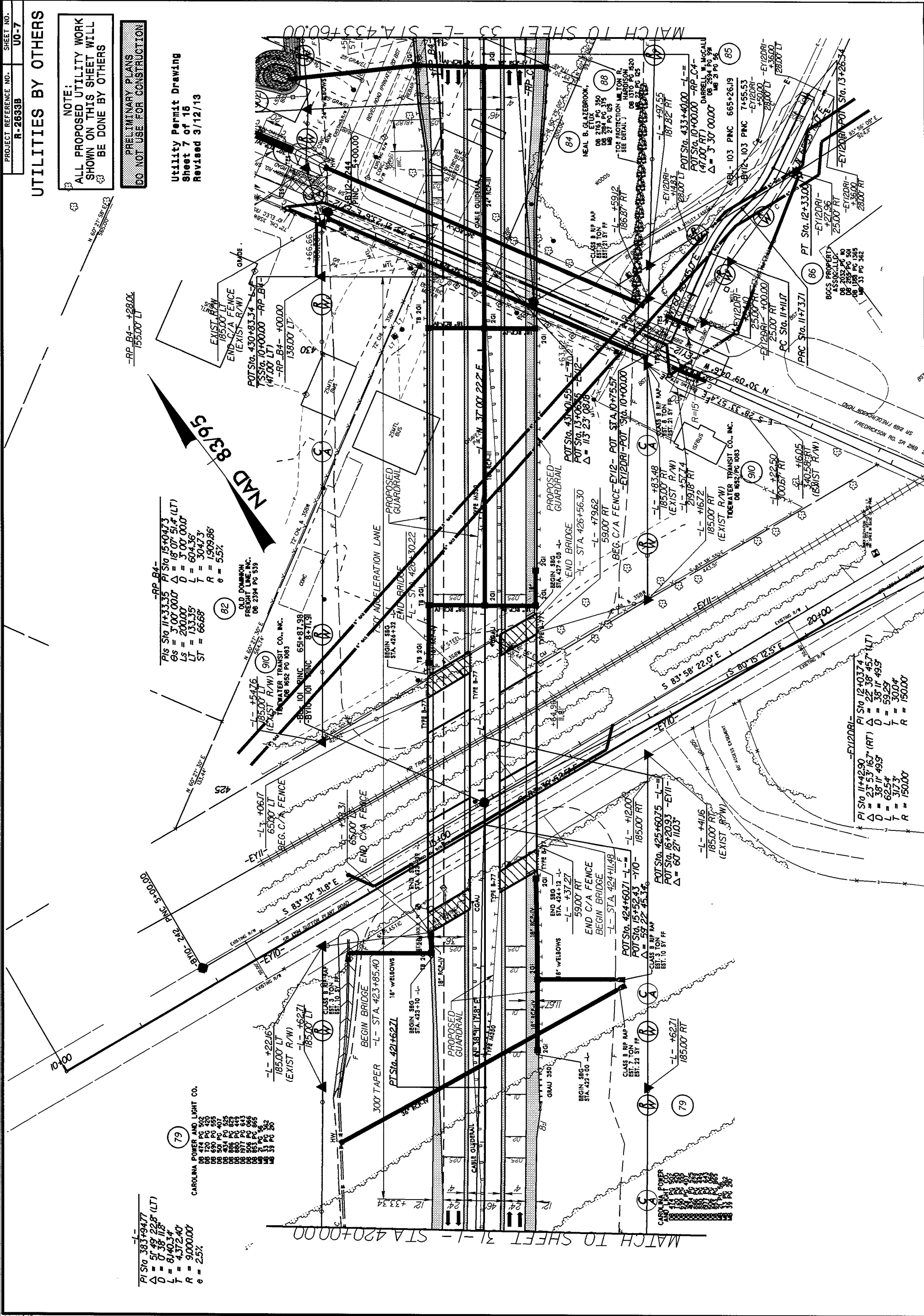
MAD 83/95

90
OLD DOMINION
FREIGHT LINE, INC.
DB 2394 PG 539

910
TOWATER TRANSIT CO., INC.
DB 652 PG 083

79
CAROLINA POWER AND LIGHT CO.
DB 474 PG 502
DB 480 PG 453
DB 501 PG 407
DB 434 PG 525
DB 488 PG 423
DB 497 PG 613
DB 508 PG 066
DB 513 PG 362
DB 53 PG 382

-L-
PI Sta 383+94.77
Δ = 57'49" 22.5' (LT)
D = 0'38" 11.8'
L = 81'40.34'
T = 4'37.240"
R = 9'000.00"
e = 2.5%



MATCH TO SHEET 31-1- STA 420+00.00

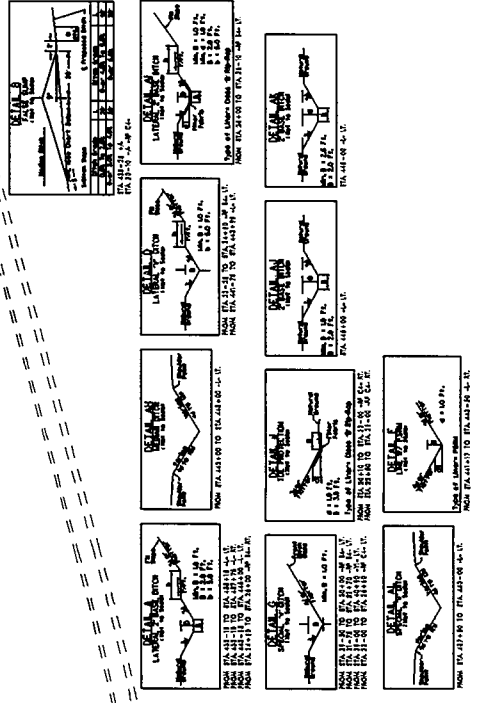
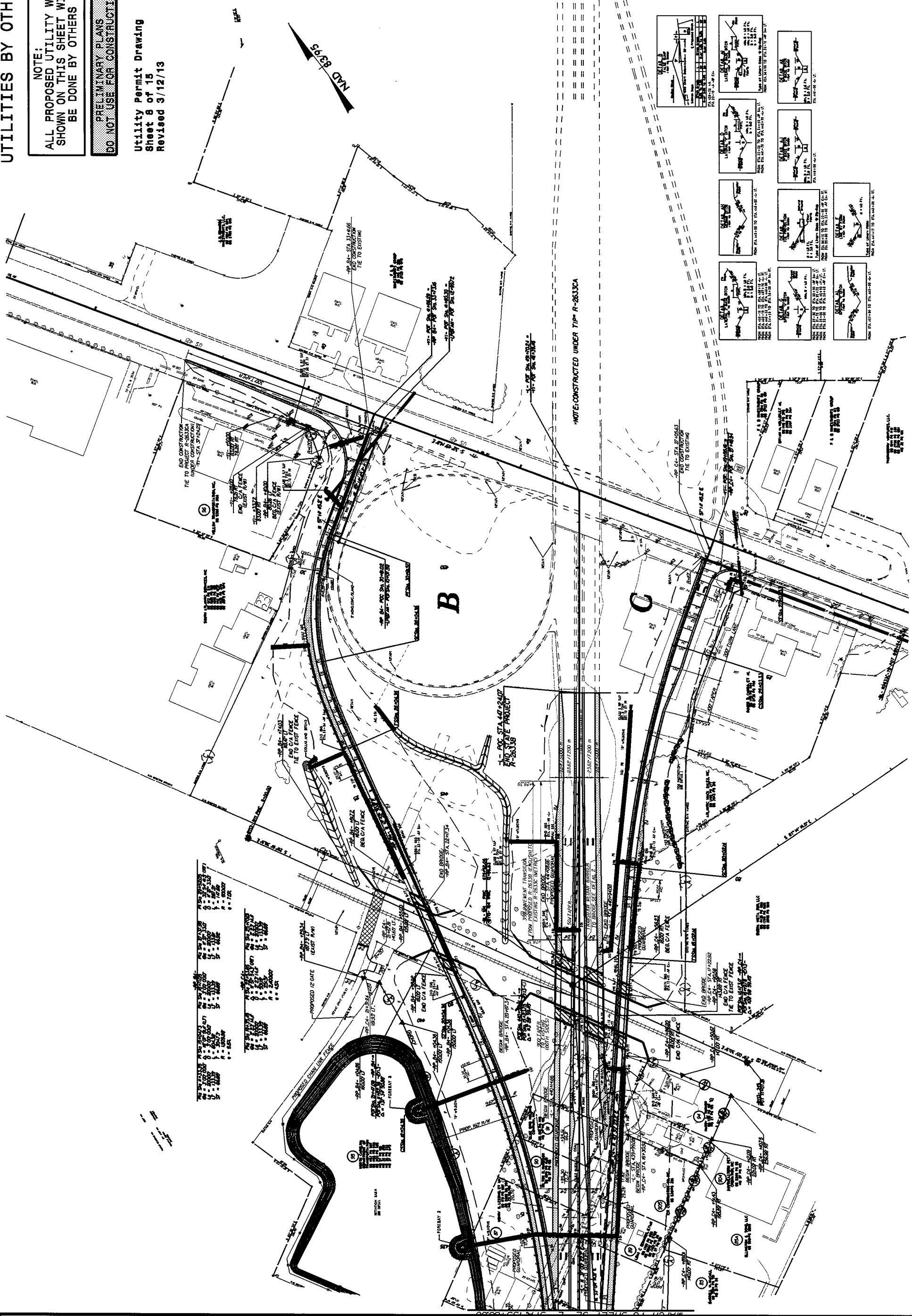
MATCH TO SHEET 33-L- STA 433+60.00

UTILITIES BY OTHERS

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PRELIMINARY PLANS
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Utility Permit Drawing
Sheet 8 of 15
Revised 3/12/13

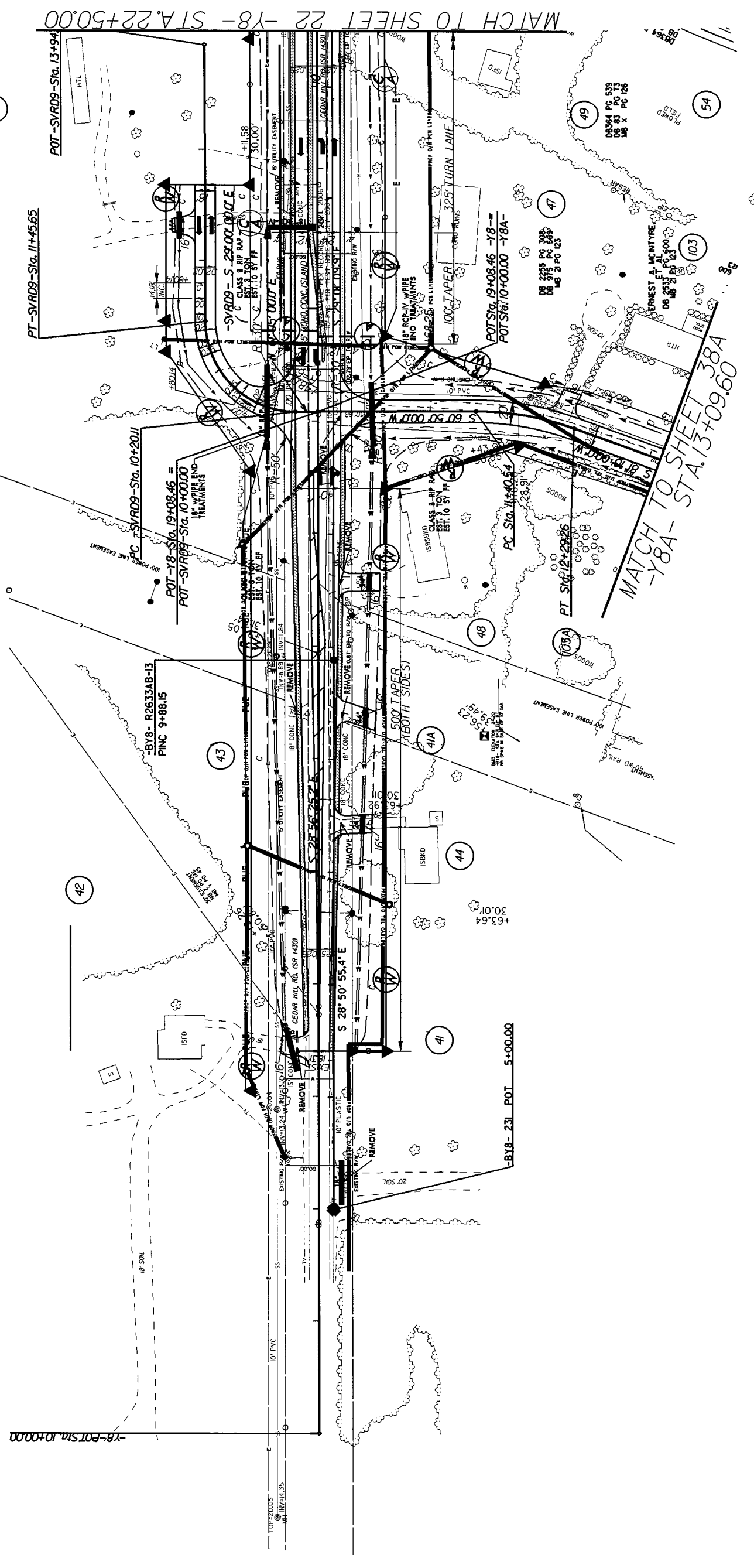
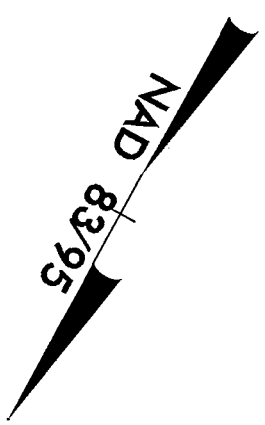


UTILITIES BY OTHERS

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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

Utility Permit Drawing
Sheet 11 of 18
Revised 3/12/13



(45)

(46)

PT-SVRD9-Sta. 11+45.65

MATCH TO SHEET 22 - Y8 - STA. 22+50.00

POT-SVRD9-Sta. 13+94

SVRD9-S 28' 00' 00.00'E
CLASS B RW 14'-7'0" C
EST. 10 SV PF

+11.58
30.00'

REMOVE AS UTILITY EASEMENT
10' CONC
10' CONC
REMOVE

325' TURN LANE
100' TAPER

POT Sta. 19+08.46 -Y8--
POT Sta. 10+00.00 -Y8A--

(47)

DB 225' PG 639
DB 375' PG 113
MB X PG 126

PLOWED FIELD

(54)

ERNEST A MCINTYRE
DB 233' PG 600
MB 21 PG 123

(103)

R

PC-SVRD9-Sta. 10+20.11

POT -Y8- Sta. 19+08.46 =
POT-SVRD9-Sta. 10+00.00
10' W/TYPE END TREATMENTS

100' POWER LINE EASEMENT

500' TAPER (BOTH SIDES)

REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

REMOVE AS UTILITY EASEMENT
10' CONC
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REMOVE AS UTILITY EASEMENT
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REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

(43)

-BY8- R2633AB-13
PINC 9+88.15

REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

REMOVE AS UTILITY EASEMENT
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REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

REMOVE AS UTILITY EASEMENT
10' CONC
REMOVE

(42)

(44)

+63.64
30.00'

(41)

-BY8- 231 POT 5+00.00

MATCH TO SHEET 38A -Y8A- STA. 13+09.60

-Y8-POT Sta. 10+00.00

UTILITIES BY OTHERS

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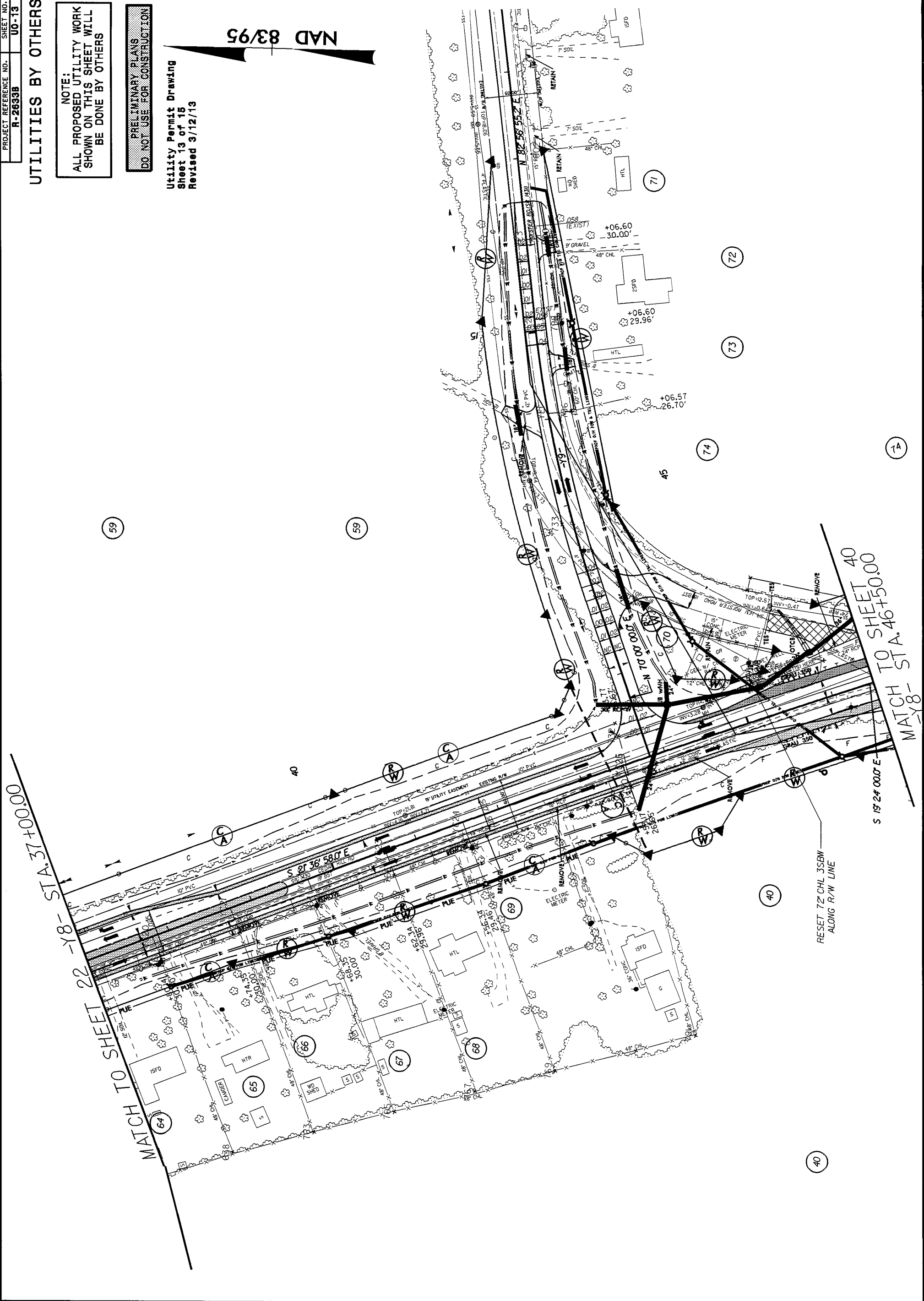
Utility Permit Drawing
Sheet 13 of 15
Revised 3/12/13

NAD 83/95

MATCH TO SHEET 22 -Y8- STA. 37+00.00

RESET 72" CHL 3SBW
ALONG R/W LINE

MATCH TO SHEET 40
STA. 46+50.00
-Y8-

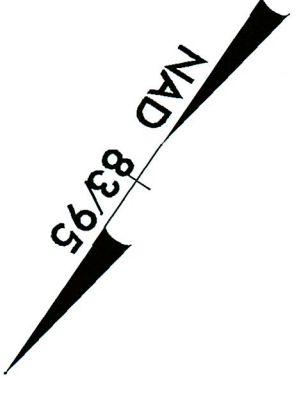
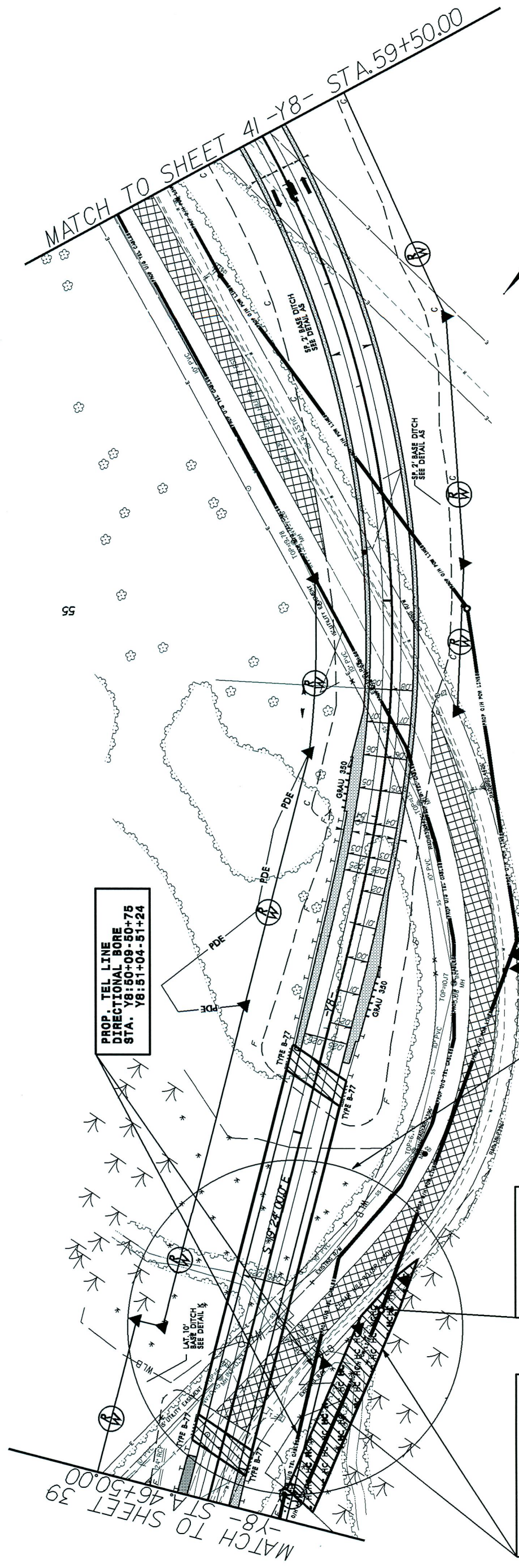


UTILITIES BY OTHERS

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Utility Permit Drawing
Sheet 14 of 15
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Denotes Hand Clearing

PROP. TEL LINE DIRECTIONAL BORE STA. Y8:50+09-50+75 STA. Y8:51+04-51+24

SITE 1

FILL IN WETLAND <0.01 ACRES FOR POWER POLE

HAND CLEARING IN THE WETLAND 0.15 ACRES FOR PROP. O/H POWER LINES

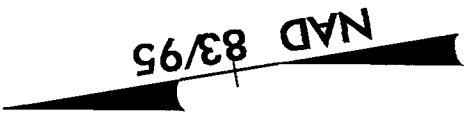
R/W REVISION 03/30/09 - ADDED PARCEL 75 LINCOLN DEVELOPMENT.
R/W REVISION 02/11/10 - REVISED R/W ON PARCELS 74 AND 75 TO ACCOMMODATE WORK BRIDGE ALONG PROPOSED STRUCTURE
R/W REVISION 01/11/11 - CHANGED MONUMENT ON PARCEL 40 TO PC ADDED R/W MONUMENTS ON EXISTING R/W CHANGED PARCEL 75A TO RODGERS FAMILY PROPERTIES, LLC DB 2722 Pg 0782

UTILITIES BY OTHERS

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Utility Permit Drawing
Sheet 15 of 15
Revised 3/12/13

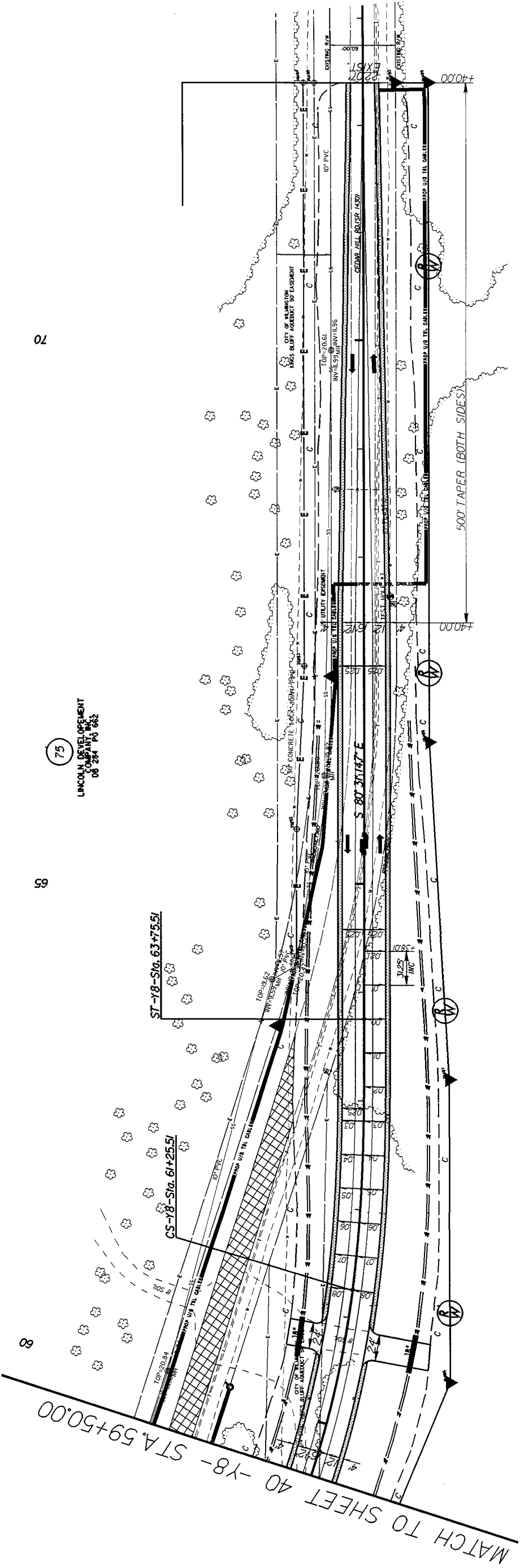


70

59

(75)
LINCOLN DEVELOPMENT
COMPANY, INC.
08 284 PO 662

(75A)
ROGERS FAMILY PROPERTIES, LLC.
08 2722 PO 0782



MATCH TO SHEET 40 -Y8- STA. 59+50.00

| Site No. * | Station (From/To) | Structure Size / Type | WETLAND PERMIT IMPACT SUMMARY | | | | | | | | | | | | | | | | |
|------------|-------------------|------------------------------------|-------------------------------------|--------------------------------------|-----------------------------|-----------------------------|--------------------------------------|------------------------------------|-------------------------------------|---------------------------|-----------------------|---|-------------------------------------|----------------------------|---|------|--|--|--|
| | | | WETLAND IMPACTS | | | | | SURFACE WATER IMPACTS | | | | | | | | | | | |
| | | | 404 Permanent Fill in Wetlands (ac) | CAMA Permanent Fill in Wetlands (ac) | Temp. Fill in Wetlands (ac) | Excavation in Wetlands (ac) | Mechanized Clearing in Wetlands (ac) | 404 Hand Clearing in Wetlands (ac) | CAMA Hand Clearing in Wetlands (ac) | Permanent SW impacts (ac) | Temp. SW impacts (ac) | Existing Channel Impacts Permanent (ft) | Existing Channel Impacts Temp. (ft) | Natural Stream Design (ft) | | | | | |
| 1 | -YB- 48+60 | Prop. O/H Power line | <0.01 | | | | | | | | 0.15 | | | | | | | | |
| | -YB- 48+58 | Prop. Power Pole | | | | | | | | | | | | | | | | | |
| 2 | -L- 138+96~141+92 | Rig set up of bores 4" gas line | | | | | | | | | 0.83 | | | | | | | | |
| | -L- 140+36~140+74 | Bell holes for tie-ins 4" gas line | | | | 0.02* | | | | | | | | | | | | | |
| | -L- 140+62~147+63 | Equipment Movement | | | | | | | | | 0.48 | | | | | | | | |
| | -L- 147+50~147+89 | Bell holes for tie-ins 4" gas line | | | | 0.02* | | | | | | | | | | | | | |
| | -L- 147+75~148+80 | Weird pipe for bore | | | | | | | | | 0.05 | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | |
| TOTALS: | | | <0.01 | | 0.00 | 0.04 | 0.00 | 0.00 | 1.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0.00 | | | |

* Temporary Excavation

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRUNSWICK AND NEW HANOVER COUNTIES
WBS - 34491.1.2 (R-2633B)

SHEET